

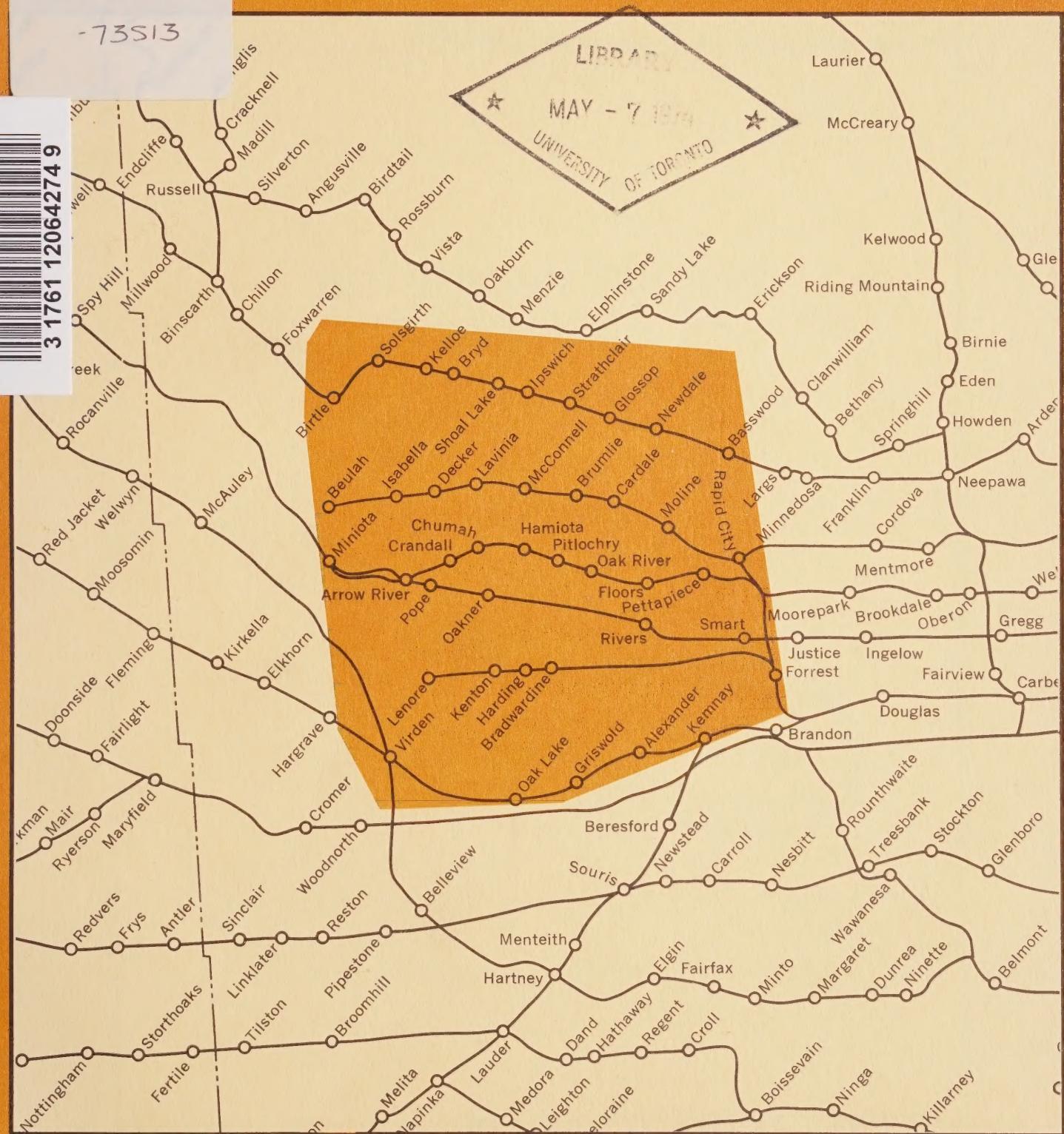
PRAIRIE REGIONAL STUDIES IN ECONOMIC GEOGRAPHY NO. 13

VIRDEN REGION OF MANITOBA

CA 1 OA 25

-73513

3 1761 12064274 9





*Canada. Dept. of Agriculture. Economics Br.*  
*I. Prairie Regional studies in economic geography*

CAI DA 25

- 73S13

PRAIRIE REGIONAL STUDIES IN ECONOMIC GEOGRAPHY NO. 13



## THE VIRDEN REGION OF MANITOBA

H. R. FAST  
K. J. MORISON

ECONOMICS BRANCH  
AGRICULTURE CANADA  
OTTAWA, ONTARIO

ECONOMICS BRANCH PUBLICATION NO. 73/8 JUNE 1973



Digitized by the Internet Archive  
in 2025 with funding from  
University of Toronto

<https://archive.org/details/31761120642749>

Publications in the Series of

**PRAIRIE REGIONAL STUDIES IN ECONOMIC GEOGRAPHY**

1. The Riverhurst Region of Saskatchewan by A.W. Burges, Geographical Branch, Department of Energy, Mines and Resources; and J.W. Channon, Economics Branch, Canada Department of Agriculture. (Supplement to Riverhurst Regional Report, September, 1967). *Out of print*
2. The Boissevain Region of Manitoba by J.W. Channon, D. Zasada and R.T. Miller, Economics Branch, Canada Department of Agriculture. *Out of print*
3. The Rockglen Region of Saskatchewan by J.W. Channon, D. Zasada and R.T. Miller, Economics Branch, Canada Department of Agriculture. Pub. No. 69/11, August, 1969. *Out of print*
4. The Camrose-Vegreville Region of Alberta by J.W. Channon and D. Zasada, Economics Branch, Canada Department of Agriculture. Pub. No. 69/16, November, 1969. *Out of print*
5. The Weyburn Region of Saskatchewan by J.W. Channon, H.R. Fast and D.A. Neil, Economics Branch, Canada Department of Agriculture. Pub. No. 71/4, May, 1971. *Out of print*
6. The Killarney Region of Manitoba by J.W. Channon, D. Zasada and K.J. Morison, Economics Branch, Canada Department of Agriculture. Pub. No. 71/7, May, 1971. *Out of print*
7. The Eston-Elrose Region of Saskatchewan by J.W. Channon, H.R. Fast and D.A. Neil, Economics Branch, Canada Department of Agriculture. Pub. No. 71/12, November, 1971. *Out of print*
8. The Brandon-Neepawa Region of Manitoba by J.W. Channon and K.J. Morison, Economics Branch, Canada Department of Agriculture. Pub. No. 71/15, March, 1972.
9. The Cardston Region of Alberta by J.W. Channon and K.J. Morison, Economics Branch, Agriculture Canada. Pub. No. 72/3, July, 1972.

10. The Rosthern Region of Saskatchewan by J.W. Channon, H.R. Fast and D.A. Neil, Economics Branch, Agriculture Canada. Pub. No. 72/6, October, 1972.
11. The Tisdale Region of Saskatchewan by H.R. Fast and D.A. Neil, Economics Branch, Agriculture Canada. Pub. No. 73/4, February, 1973.
12. The Melfort-Wakaw Region of Saskatchewan by H.R. Fast and D.A. Neil, Economics Branch, Agriculture Canada. Pub. No. 73/5, May, 1973.
13. The Virden Region of Manitoba by H.R. Fast and K.J. Morison, Economics Branch, Agriculture Canada. Pub. No. 73/8, June, 1973.

*Copies may be obtained from the Information Division, Agriculture Canada,  
Ottawa, Canada. K1A 0C5.*

## ACKNOWLEDGEMENTS

Many persons assisted in the preparation of this report and to all of them we extend our sincere thanks. In particular we are grateful to the following persons who co-operated in the collection of data: Mr. T.V. Martin and Mr. J.B. Hayes of the Canadian Wheat Board; Mr. A.N. Everson of the Canadian Grain Commission; Miss J. Rooney of Statistics Canada; Miss M. Fleming of Canadian Transport Commission; Mr. W. Zack of the Canadian National Railway; and Mr. R. Leslie of the Canadian Pacific Railway.

We would like to express a special word of acknowledgement to Mr. J.W. Channon who, until recently, guided the course of this series and whose continued interest in the project is appreciated.

Thanks must be given to Mr. J.G. Roberts, Mr. R. Norgren and Mr. B. Edwards of the Cartography Unit of the Soils Research Institute, Agriculture Canada, for completing the complex map work.

Also we would like to thank Mr. Y. Labelle and staff of the Canadian Printing Bureau and Mr. D. Guertin and staff of the Information Division, Agriculture Canada, for the valuable service they rendered.

Finally a great deal of credit must be given to fellow staff members of the Economics Branch, especially Mr. M. Collins, Mr. R. Barton, Mr. L.E. Philpotts, Mr. R.L. Lafrance and Mrs. N. Chartrand.

To all these people we are indebted. Any errors or omissions, however, remain the responsibility of the authors.

## PREFACE

Bill C-120 was given first reading in the House of Commons on September 14, 1964. This was the first attempt to implement the recommendations of the MacPherson Royal Commission on Transportation. It never became law as the twenty-sixth Parliament was dissolved before the bill passed through the Commons. That bill would have established the Branch Line Rationalization Authority, responsible to the Minister of Agriculture.

Bill C-231, which succeeded Bill C-120, was given first reading on August 29, 1966 and subsequently became what is now in the statutes as the National Transportation Act, R.S.C. 1970 Ch. N-17. This bill established the Canadian Transport Commission, comprising several committees, including the Railway Transport Committee. This latter committee was allocated the responsibilities which would have been given to the Branch Line Rationalization Authority. The Railway Transport Committee is responsible, through the Canadian Transport Commission, to the Minister of Transport. Accordingly the Minister of Agriculture now has no direct authority in the field of branch line abandonment. However, because of the responsibilities of the Canadian Grain Commission in regulating the grain warehouse industry, the Minister of Agriculture has a direct interest in the impact of branch line rationalization on this railway-related industry. He also is concerned, of course, with the effects of such changes on the welfare of western grain producers.

Prairie Regional Studies in Economic Geography had their origin in work carried out by Mr. J.W. Channon for the Minister of Agriculture, beginning in February 1964. Later that year Mr. A.W. Burges began a study of the prairie branch line network for the Geographical Branch, Department of Mines and Technical Surveys. It seemed logical and economical to merge the two. This was done and the Riverhurst report became No. 1 in the series of Prairie Regional Studies. Following the dissolution of the Geographical Branch in 1967 the project was wholly transferred to the Canada Department of Agriculture and work continued under the direction of Mr. Channon. The present report on the Virden region of Manitoba is the fourth study area completed in that province and is No. 13 in this series. Together with the Boissevain Report (No. 2), the Killarney Report (No. 6) and the Brandon-Neepawa Report (No. 8) the south-west corner of Manitoba has been effectively covered in this series.

The area designated as the Virden region of Manitoba comprises 43 communities. These are first listed in Table 1.1 and again in subsequent tables as required. The factors given consideration when delineating a study region for purposes of this series include the following: (1) that the region must be a manageable size; (2) that the region must encompass one or more problem areas with regard to grain marketing; (3) that an attempt is made to draw a line around the region such that communities outside the region are not affected by the rationalization hypothesized in the study in terms of grain delivery patterns, i.e., if possible no community is to be in more than one study region; and (4) that the region and the problem areas are to be based on the railway network and country elevators existing at the time of delineation.

As noted in the previous reports, the emphasis is on grain farms and the communities and facilities serving these farms. The tabular data and their accompanying text, figures and map describe the socio-economic activity of the region. It is hoped that this information will enable the reader to gain an appreciation of the relative importance of the farms and communities in the Virden region, and having done this be in a better position to assess the impact of proposed programs and contemplated changes in the infrastructure of the region.

It is readily admitted that the data contained in this report do not constitute an exhaustive coverage of all the parameters. The material being presented is intended to help those individuals and firms affected by changes to understand the rationale of any changes in grain collection and distribution, some of which have been under way for some years. Undoubtedly this will intensify over the next few years as inflationary pressures work on the cost structures of the grain production industry, the elevator industry and the railways.

This report is organized into five major parts, the first being a description of the communities themselves. The following community attributes are described: available services, population, school enrolment, postal activity, property tax assessment and transportation services. The second part describes some grain production characteristics of the region including soils, meteorological data, land values, land use, crop yields, protein content, and farm sizes and tenure. Descriptive material contained in the third part focuses on the grain marketing and handling system as it relates to the delivery points. Among other things, this includes data on the number and capacity of grain elevators, number of permit holders, grain elevator receipts, quota base, grain prices and farm to elevator grain hauling activity.

Part IV attempts to show what changes might be expected if some of the delivery points closed. It is a hypothetical exercise in which the hinterlands of certain delivery points assumed closed are diverted and added to neighboring delivery point hinterlands. Estimates are made of acreages, bushels and number of permit holders gained by delivery points remaining open, and of increased hinterland size and hauling distances.

Finally, the last part briefly describes some of the activities of the three main regulatory bodies regulating the grain industry in Canada. These are the Canadian Grain Commission, the Canadian Wheat Board and the Canadian Transport Commission. For added perspective a chronology of grain-oriented legislation and events is appended.

## TABLE OF CONTENTS

PART		PAGE
<b>I</b>	<b>COMMUNITY CHARACTERISTICS</b>	
	Classification of Communities .....	1
	Retail Trade .....	6
	Population of Communities .....	6
	Farm Population .....	8
	Population by Sex and Age Groups .....	9
	School Enrolment .....	14
	Post Office Revenue .....	18
	Property Tax Assessment .....	21
	Carload Rail Traffic .....	26
	Railway Freight .....	37
	Highway Transportation Services .....	40
<b>II</b>	<b>GRAIN PRODUCTION CHARACTERISTICS</b>	
	Soil Capability for Agriculture .....	43
	Sample Aerial Photos .....	43
	Temperature Norms and Extremes .....	46
	Precipitation .....	48
	Sales of Farm Land in the Study Area .....	50
	Land Use of Farm Acreage .....	50
	Crop Yields .....	60
	Protein Content of Wheat .....	63
	Prairie Farm Assistance Act Payments .....	65
	Farm Size .....	67
	Land Tenure .....	78
<b>III</b>	<b>GRAIN MARKETING AND HANDLING CHARACTERISTICS</b>	
	Producers' Choice of Alternate Delivery Points .....	80
	Delivery Permit Books Issued .....	82
	Canadian Wheat Board Initial Payments .....	85
	Country Elevator Facilities .....	88
	Receipts of Grain at Country Elevators .....	93
	Throughput Ratios .....	96
	Acres For Delivery Quota Purposes .....	97
	Acres Devoted to Wheat Board Grains .....	105
	Country Elevator Capacity and Quota Acres .....	108
	Number of Boxcars Per Shunt That Can Be Loaded .....	110
	Block Loading System for Grain .....	112
	Farm to Elevator Hauling Distances .....	114

<b>IV</b>	<b>A SUGGESTED ALTERNATE GRAIN COLLECTION SYSTEM</b>	
Diversion of Acreages and Bushels Conditional on Closing Certain Delivery Points.....	118	
Throughput Ratios Before and After Diversion .....	125	
Size of Hinterlands Before and After Diversion .....	127	
Farm to Elevator Hauling Distances Before and After Diversion .....	128	
Number of Permit Holders Before and After Diversion .....	129	
<b>V</b>	<b>REGULATION OF THE GRAIN INDUSTRY</b>	
Canada Grain Act.....	131	
The Canadian Wheat Board Act .....	132	
Temporary Wheat Reserves Act .....	135	
National Transportation Act .....	135	
Chronology of Government Legislation .....	138	

## LIST OF TABLES

TABLE		PAGE
1.1	Classification of Communities in the Study Area . . . . .	2
1.2	Services Present in Communities by Rank, 1971 . . . . .	3
1.3	Retail Trade of Incorporated Communities in the Study Area, 1961 and 1966 . . . . .	6
1.4	Population of Communities in the Study Area, Census Years 1941 to 1966 . . . . .	7
1.5	Farm Population in the Study Area by Rural Municipality, Census Years 1941 to 1966 . . . . .	9
1.6	Population by Specified Age Groups and Sex for Incorporated Communities and Rural Municipalities in the Study Area, 1966 . . .	10
1.7	Proportion of Population Falling Within Three Specified Age Groups, 1966 . . . . .	14
1.8	School Enrolment in the Study Area by Grades, School Year 1971-72 . . . . .	16
1.9	Post Office Revenue in the Study Area, Fiscal Years 1962-63 to 1970-71 . . . . .	19
1.10	Property Tax Assessment for Communities in the Study Area, 1971 .	22
1.11	Revenue-Carload Rail Traffic by Delivery Point in the Study Area, 1962 to 1971 . . . . .	27
1.12	Railway Freight Density on Lines in the Study Area, 1963, 1966 and 1968 . . . . .	38
1.13	Truck Services by Community, 1971 . . . . .	41
2.1	Temperature Norms and Extremes for Specified Meteorological Stations . . . . .	47
2.2	Monthly and Annual Average Precipitation for Specified Meteorological Stations . . . . .	49
2.3	Representative Land Values by Sales Price Per Acre 1963 to 1970 . . . . .	50

2.4	Land Use of Farm Acreage by Delivery Point 1962-63.....	52
2.5	Land Use of Farm Acreage by Delivery Point 1969-70.....	56
2.6	Ten-Year Average Yields of Spring Wheat, Durum, Oats, Barley and Flaxseed by Delivery Point 1962 to 1971 .....	61
2.7	Protein Content of Hard Red Spring Wheat by Delivery Point, 1962 to 1971 .....	64
2.8	Distribution of Farm Sizes in the Study Area, Crop Years 1962-63 and 1969-70 .....	68
2.9	Average Acreage of Farms in the Study Area, 1962-63 and 1969-70 ..	68
2.10	Land Tenure of Farms in the Study Area, 1962-63 and 1969-70.....	78
3.1	Producers' Choice of Alternate Delivery Points, 1971 .....	81
3.2	Delivery Permit Books Issued by Delivery Point, 1962-63 to 1971-72 .....	83
3.3	Canadian Wheat Board Net Initial Payments to Producers by Freight Rates, Basis Thunder Bay, Ontario .....	86
3.4	Number and Capacity of Licensed Country Elevators by Delivery Point, 1962-63 and 1969-70 .....	89
3.5	Country Elevators: Owner, Age and Capacity by Delivery Point, 1970-71 .....	90
3.6	Receipts of Grain at Licensed Country Elevators by Delivery Point, 1962-63 to 1970-71 and Ten-Year Average .....	94
3.7	Throughput Ratios by Delivery Point 1962-63, 1969-70 and Ten-Year Average.....	96
3.8	Canadian Wheat Board Specified Acreage for Delivery Quota Purposes by Delivery Point, 1962-63 to 1969-70 .....	99
3.9	Major Grains: Quota Acres as a Percent of Seeded Acres by Delivery Point, 1970-71 .....	101
3.10	Major Grains: Quota Acres as a Percent of Seeded Acres by Delivery Point, 1971-72 .....	103

3.11	Number and Percent of Specified Acres Devoted to Canadian Wheat Board Grains by Delivery Point, 1962-63 to 1969-70 .....	106
3.12	Ratio of Elevator Capacity to Total Quota Acres, by Delivery Point, 1971-72 .....	108
3.13	Maximum Number of Boxcars per Shunt that Can be Loaded by Delivery Point and Elevator Company 1969-70 .....	110
3.14	Block Loading System for Grain in the Study Area .....	113
3.15	Farm to Elevator Hauling Distances by Delivery Point, 1969-70 .....	115
4.1	Status of Delivery Points After Diversions, 1969-70. ....	118
4.2	Divisions (From – To) of Acreages and Bushels Conditional on the Closing of Specified Delivery Points, Basis Crop Year 1969-70 .....	119
4.3	Divisions (To – From) of Acreages and Bushels Conditional on the Closing of Specified Delivery Points, Basis Crop Year 1969-70 .....	122
4.4	Throughput Ratios by Delivery Point Before and After Diversion, Basis 1969-70 and Previous Ten-Year Average .....	126
4.5	Size of Hinterlands Before and After Diversion, Basis 1969-70 .....	127
4.6	Farm to Elevator Hauling Distances by Delivery Point, Before and After Diversion, Basis 1969-70.....	128
4.7	Number of Permit Holders by Delivery Point Before and After Diversion, Basis 1969-70 .....	130

## LIST OF FIGURES

<b>FIGURE</b>		<b>PAGE</b>
1.1	Classification of Communities, Virden Region of Manitoba, 1971 .....	5
1.2	Railway Freight Density, Virden Region 1968.....	39
2.1	Aerial View of Arrow River, Manitoba.....	44
2.2	Aerial View of Rivers, Manitoba .....	45
2.3	Prairie Farm Assistance Act Payments, 1939-1971 .....	66
2.4	Distribution of Grain Farm Sizes 1962-63 and 1969-70 .....	77
3.1	Export Grain Freight Rates Per 100lbs. From Virden Region to Thunder Bay, Ontario .....	87
4.1	Grain Delivery Point Hinterlands Virden Region of Manitoba, 1962-63 .....	147
4.2	Grain Delivery Point Hinterlands Virden Region of Manitoba, 1969-70 .....	148
4.3	Probable Grain Delivery Point Hinterlands Assuming Specified Delivery Points Closed Virden Region of Manitoba, Basis 1969-70 ...	149



## PART I

### COMMUNITY CHARACTERISTICS

#### Classification of Communities

The Virden Region of Manitoba comprises 43 communities for which the Canadian Wheat Board establishes grain delivery quotas. Forrest-Smart and Cardale-Brumlie, are four separate communities, however, the Canadian Wheat Board has ruled them to be only two grain delivery points. Thus while the study deals with 43 communities there are only 41 official grain receiving points.

Within the region there are some communities which this study has ignored. These communities do not function as grain shipping points and consequently do not have tributary areas that can be described in terms of grain delivery to these particular communities.

As will be noted in Tables 1.1 and 1.2, the grain delivery communities have been ranked according to the number of services offered in each, from the fewest number to the greatest. This ranking was then classified into groups of communities according to the range of the number of services, namely: "too small to classify", 0-2 services; hamlets, 3-10 services; villages, 11-35 services; towns, 36-75 services; and greater towns, 76 or more services. If two or more communities had an equal number of services, they were then ranked by population.

As a working definition of "service" with respect to grain elevators, the number of grain elevator companies actively receiving grain from producers either on a part or full-time basis during the 1971 crop year were counted. Thus, while there were three active elevators in Kenton they were all owned and operated by one company and therefore were considered to be just one elevator service. An elevator used for storage only was not counted as an active service.

There were ten points grouped as "too small to classify", being the present or former locations of grain elevators on the railway right-of-way. Where a second service was available, it consisted of a general store, a farm supplies dealer (usually fertilizer and chemicals sold by the elevator agent) or a post office.

Fourteen communities were designated as hamlets which typically, in addition to the grain elevator, had a general store, a farm supplies outlet, a service station or gasoline pumps, recreational facilities such as a curling or skating rink, and a church or other meeting hall. Nine of the hamlets in the Virden Region had a post office.

The group of villages is comprised of eight communities with the smallest village of Lenore having 11 services and the largest village of Kenton having 33. Villages tend to have all the facilities present in hamlets with the addition of a hardware store, an

implement dealer, more than one service station, a garage, cafe, more meeting halls and recreational facilities, and a school. In some villages there is a high school as well as the elementary school.

Virtually the whole range of services is displayed in the group of towns and greater towns. Where in villages there may have been only one establishment of the same type, in towns there are often two or more similar establishments. Some degree of specialization becomes evident. For instance, one may find a bakery in addition to the grocery store and an appliance sales and service store in addition to the hardware store. Other specialized services, not itemized in Table 1.2, were also present. Examples are drive-in restaurants and senior citizen homes.

TABLE 1.1. CLASSIFICATION OF COMMUNITIES IN THE STUDY AREA, 1971

Too Small to Classify (0-2 Services)	Hamlets (3-10 Services)	Villages (11-35 Services)	Towns (36-75 Services)	Greater Towns (76 and more Services)
1 Maples	11 Bryd	25 Lenore	33 Oak River	39 Rivers
2 Brumlie	12 Lavinia	26 Solsgirth	34 Newdale	40 Hamiota
3 Pettapiece	13 Kelloe	27 Crandall	35 Miniota	41 Birtle
4 Pitlochry	14 Kemnay	28 Basswood	36 Rapid City	42 Shoal Lake
5 Smart	15 Glossop	29 Decker	37 Strathclair	43 Virden
6 Chumah	16 Moline	30 Cardale	38 Oak Lake	
7 Floors	17 McConnell	31 Alexander		
8 Ipswich	18 Oakner	32 Kenton		
9 Pope	19 Bradwardine			
10 Arrow River	20 Harding			
	21 Isabella			
	22 Beulah			
	23 Forrest			
	24 Griswold			

Source: Field Survey.  
Manitoba Telephone Directory.

TABLE 1.2. SERVICES PRESENT IN COMMUNITIES BY RANK, 1971

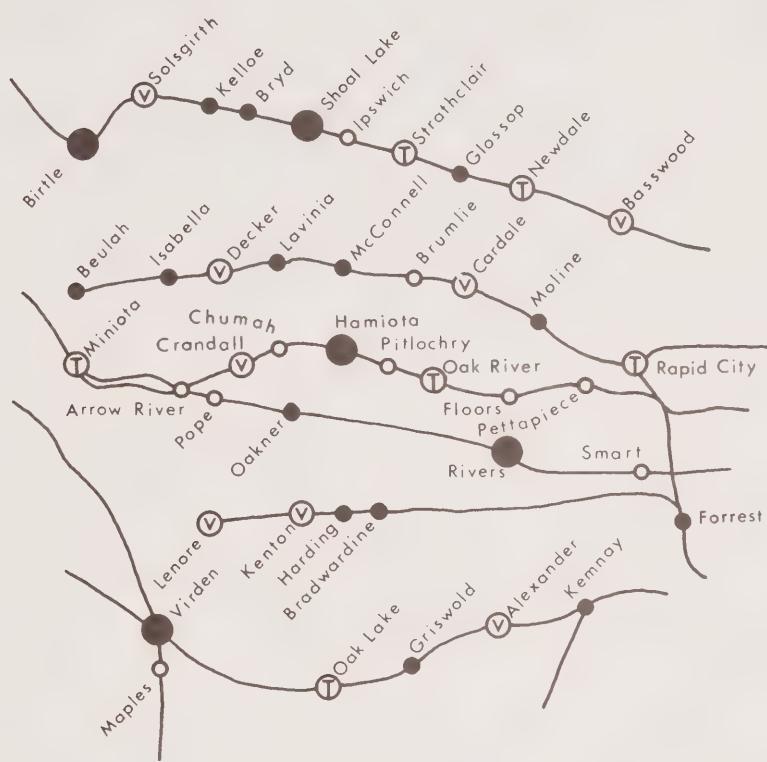
	TOO SMALL TO CLASSIFY (0-2 Services)	HAMLETS (3-10 Services)	VILLAGES (11-15 Services)	TOWNS (36-75 Services)	GREATER TOWNS 76 and More Services
<i>Farm Products Assembly</i>					
Grain Elevator Company	1	1	1	1	1
Feed Mill	1	1	1	1	1
Seed Cleaning/Drying Plant	1	1	1	1	1
Dairies/Creameries	1	1	1	1	1
Others	1	1	1	1	1
<i>Retail Trade</i>					
General Stores*	1	1	1	1	1
Grocery/Confectionery/Butchers	1	1	1	1	1
Drug Stores	1	1	1	1	1
Hardware Stores	1	1	1	1	1
Clothing Stores	1	1	1	1	1
Farm Implement Dealers	1	1	1	1	1
Farm Supplies/Fertilizers/Chemicals	1	1	1	1	1
Service Stations	1	1	1	1	1
Garages/Body Shops	1	1	1	1	1
Auto Dealers	1	1	1	1	1
Auto Parts/Tire Stores/Wreckers	1	1	1	1	1
Appliance Sales/Service	1	1	1	1	1
Bulk Fuel Depots/Natural Gas/Propane	1	1	1	1	1
Liquor Vendors	1	1	1	1	1
Restaurants/Cafés/Drive-Inns	1	1	1	1	1
Lumber Yards/Building Supplies	1	1	1	1	1
Other Retail Trade	1	1	1	1	1
<i>Commercial Services</i>					
Beauty Salons	2	1	1	1	1
Barber Shops	1	1	1	1	1
Pool Rooms	1	1	1	1	1
Theatres	1	1	1	1	1
Locker Plants	1	1	1	1	1
Dry Cleaning	1	1	1	1	1
Coin Laundry/Laundry	1	1	1	1	1
Car Wash	1	1	1	1	1
Hotel/Beverage Room/Motel	1	1	1	1	1
Plumbing and Heating	1	1	1	1	1
Electrical Contractor	1	1	1	1	1
Construction Contractors	1	1	1	1	1
Welding Shop/Blacksmith	1	1	1	1	1
Shoe Repair	1	1	1	1	1
Law Office	1	1	1	1	1
Dentist	1	1	1	1	1
Doctors Office	1	1	1	1	1
Newspaper	1	1	1	1	1
Veterinarian	1	1	1	1	1
Funeral Parlor	1	1	1	1	1
Other Commercial Services	2	1	1	2	3

TABLE 1.2. SERVICES PRESENT IN COMMUNITIES BY RANK, 1971 (concluded)

	TOO SMALL TO CLASSIFY (0-2 Services)	HAMLETS (3-10 Services)	VILLAGES (11-15 Services)	TOWNS (36-75 Services)	GREATERTOWNS 76 and More Services
<b>Public Services</b>					
Recreational Facilities					
Meeting Halls	1	1	1	2	2
Library	1	1	1	1	1
Religious Buildings			1	2	2
Schools	1	1	1	1	1
Village Office/Town Office/R.M. Office					
Fire Hall					
Police Detachment					
Water/Sewer Works					
Power Services					
Agr. Rep. Office					
Medical/Health Clinic					1
Hospital					1
Chamber of Commerce					1
Road Maintenance Depot					1
Other Public Services					1
<i>Financial Services</i>					
Bank/Credit Union				1	1
Insurance/Real Estate				1	1
Other Financial Services					2
<i>Communication and Transportation</i>					
Telephone			1	1	1
Post Office	1	1	1	1	1
Bus Stop					1
Railway Station		1	1	1	1
Trucking Service			1	1	1
Air Field				1	1
<b>TOTAL</b>	0	1	1	2	3
*gas pumps.					
Source: Field Survey.					
Manitoba Telephone Directory.					

\*gas pumps.

Source: Field Survey.  
Manitoba Telephone Directory.



#### LEGEND

- TOO SMALL TO CLASSIFY..... 0-2 SERVICES
- HAMLETS..... 3-10 SERVICES
- ◎ VILLAGES..... 11-35 SERVICES
- ◎ TOWNS..... 36-75 SERVICES
- GREATER TOWNS..... 76 & OVER SERVICES

## CLASSIFICATION OF COMMUNITIES THE VIRDEN REGION OF MANITOBA, 1971

FIGURE 1.1

## Retail Trade

Only a limited amount of information on retail sales volume in the study area was available; therefore it could not be used in the ranking process (Table 1.3). Data were available for some incorporated communities for census years 1961 and 1966 and then only if three or more business establishments had reported. The number of outlets reporting in any one community does not account for 100 percent of the retail outlets operating in that community.

These data are presented merely to give an idea of retail trade in the communities and to show that the number of outlets and volume of sales generally increase as the size of the community increases.

TABLE 1.3. RETAIL TRADE OF INCORPORATED COMMUNITIES IN THE STUDY AREA, 1961 AND 1966

Delivery Point	No. of Outlets	1961		1966		
		Retail Sales		Retail Sales		
		Total	Per Outlet	No. of Outlets	Total	
— 000's —						
<i>Towns</i>						
36 Rapid City	10	368	37	7	281	
38 Oak Lake	12	436	36	9	534	
<i>Greater Towns</i>						
39 Rivers	16	1,994	125	13	1,496	
40 Hamiota	12	795	66	15	1,685	
41 Birtle	17	854	50	18	1,598	
42 Shoal Lake	20	1,309	65	17	1,235	
43 Virden	42	4,890	116	47	7,422	
— 000's —						

Source: Statistics Canada.

## Population of Communities

Total population of the communities in the study area increased by 36 percent between the census years 1941 and 1966 as shown in Table 1.4. Fifteen of the 43 communities increased in population over the 25 year period. However the major increases in population were in the greater towns especially in Rivers and Virden which increased by 110 percent and 81 percent respectively. In the 1971 preliminary census data these two communities showed a decline from the 1966 high. The total population of the 5 greater towns represents 66 percent of the 10,795 people living in the communities. In total, the communities ranked as "too small to classify" and hamlets decreased in population. Villages as a group decreased over the time period by eight percent and the towns collectively showed a slight increase of four percent.

The 1971 census data were available for only the larger communities in the study area. Five out of the six communities for which population figures were given show a decrease from the 1966 figures. Only Birtle showed an increase over the 1966 data, 17 people.

TABLE 1.4. POPULATION OF COMMUNITIES IN THE STUDY AREA, CENSUS YEARS 1941 TO 1966 AND 1971 PRELIMINARY

Delivery Point	1941	1951	1956	1961	1966	1971 Preliminary
<i>Too Small to Classify</i>						
1 Maples						
2 Brumlie						
3 Pettapiece			11		—	
4 Pitlochry						
5 Smart						
6 Chumah						
7 Floors			4		—	
8 Ipswich						
9 Pope	34		24	14	12	
10 Arrow River	39	37	35	31	28	
<i>Hamlets</i>						
11 Bryd						
12 Lavinia		23	21	26	10	
13 Kelloe			23		12	
14 Kemnay		48	54	81	68	
15 Glossop						
16 Moline			22	20	16	
17 McConnell		42	37	34	18	
18 Oakner	61	56	48	33	33	
19 Bradwardine	78	76	108	75	85	
20 Harding		68	52	43	43	
21 Isabella		47	54	52	31	
22 Beulah	79	58	47	48	39	
23 Forrest	35	36	31	31	66	
24 Griswold	180	176	153	137	112	
<i>Villages</i>						
25 Lenore	138	130	111	98	75	
26 Solsgirth	104	84	82	78	53	
27 Crandall	156	145	124	105	117	
28 Basswood	129	122	114	121	117	
29 Decker	94	104	86	67	48	
30 Cardale	79	102	86	91	89	
31 Alexander	240	261	291	269	297	
32 Kenton	166	202	236	222	223	

(continued)

TABLE 1.4. POPULATION OF COMMUNITIES IN THE STUDY AREA, CENSUS YEARS 1941 TO 1966  
AND 1971 PRELIMINARY (concluded)

Delivery Point	1941	1951	1956	1961	1966	1971 Preliminary
<i>Towns</i>						
33 Oak River	235	242	248	243	247	
34 Newdale	251	278		299	277	
35 Minniota	232	242	268	248	246	
36 Rapid City	452	391	434	467	449	
37 Strathclair	345	461	461	465	453	
38 Oak Lake	464	467	471	430	389	332
<i>Greater Towns</i>						
39 Rivers	802	1,209	1,422	1,574	1,685	1,164
40 Hamiota	524	663	690	779	828	822
41 Birtle	646	741	806	846	860	877
42 Shoal Lake	737	721	751	774	836	835
43 Virden	1,619	1,746	3,225	2,708	2,933	2,778
Study Area Total	7,919	8,978	10,630	10,509	10,795	
Provincial Total	729,744	776,541	850,040	921,686	963,066	

— Population not shown separately. Space: not available

Source: Statistics Canada.

### Farm Population

The study area encompasses 16 rural municipalities and 3 Indian reserves which are listed in Table 1.5. The figures show the numbers of people living on census farms. In every municipality farm population decreased between 1941 and 1966 as it has for the entire province. For the province it declined by 35 percent while farm population in the study area declined by 23 percent.

The combined effects of a decline in farm population and an increase in total population resulted in rather sharp declines in the proportion of persons on farms, from a provincial total of 34.2 percent in 1941 to 16.8 percent 25 years later. The proportion of persons on farms in the study area in 1966 was 47.2 percent. These data serve to illustrate the movement of people from small rural centres to larger centres.

TABLE 1.5. FARM POPULATION IN THE STUDY AREA BY CENSUS DIVISION AND RURAL MUNICIPALITY, CENSUS YEARS 1941 TO 1966

Rural Municipalities	1941	1951	1956	1961	1966
<i>Census Division # 7</i>					
54. Elton	1,369	1,242	1,204	1,180	1,187
<i>Census Division # 8</i>					
3. Daley	995	1,010	1,002	862	953
4. Glenwood	1,081	953	873	821	923
5. Pipestone	1,765	1,661	1,693	1,625	1,478
6. Sifton	1,078	960	900	835	873
7. Wallace	1,976	1,989	2,060	1,796	1,669
8. Whitehead	1,092	950	900	765	775
9. Woodnorth	1,577	1,555	1,457	1,357	1,283
10. Indian Reserves	—	169	199	152	142
<i>Census Division # 1</i>					
26. Blanshard	1,180	1,069	1,117	961	918
27. Harrison	1,623	1,287	1,109	933	830
30. Saskatchewan	1,222	1,135	1,072	891	841
31. Shoal Lake	1,149	1,064	1,000	853	786
32. Strathclair	1,455	1,268	1,180	1,074	931
34. Indian Reserves	—	—	—	54	—
<i>Census Division # 13</i>					
49. Birtle	1,628	1,732	1,698	1,398	1,360
51. Hamiota	1,343	1,223	1,176	1,040	1,007
52. Miniota	1,437	1,274	1,263	1,166	1,044
55. Indian Reserves	170	155	146	42	38
Study Area Total	22,140	20,696	20,049	17,805	17,038
Farm Population of Manitoba	249,599	219,233	206,729	172,946	161,662

Source: Statistics Canada.

#### Population by Specified Age Groups and Sex

Tables 1.6 and 1.7 contain 1966 census population data for incorporated communities and rural municipalities making up the study area. Provincial totals are also shown.

Males outnumbered females in the study area as well as in the province. In the study area, 52 percent of the population was male while 48 percent was female. Provincially the figures are 51 percent male and 49 percent female.

The 20 to 64 age group closely represents the effective working population (Table 1.7). In the province this group comprised 50 percent of the population. For the study area this group made up slightly less of the population, 47 percent.

TABLE 1.6. POPULATION BY SPECIFIED AGE GROUPS AND SEX FOR INCORPORATED COMMUNITIES AND RURAL MUNICIPALITIES IN THE STUDY AREA, 1966

		— Years of Age —							70 & Over		
		Total	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64
<i>Communities</i>											
38 Oak Lake	T	389	25	31	42	21	25	34	37	55	22
	M	181	11	10	13	20	14	13	16	31	8
	F	208	14	21	18	22	7	12	20	21	14
36 Rapid City	T	449	37	49	54	50	10	34	48	58	42
	M	211	13	21	30	18	4	18	23	28	17
	F	238	24	28	24	32	6	16	25	30	25
40 Hamiota	T	828	61	64	79	75	48	53	74	87	87
	M	379	31	27	37	34	22	26	34	40	40
	F	449	30	37	42	41	26	27	40	47	47
42 Shoal Lake	T	836	71	71	63	70	47	73	78	110	104
	M	413	34	40	27	45	23	37	36	52	51
	F	423	37	31	36	25	24	36	42	58	53
41 Birtle	T	860	67	82	67	83	43	92	74	101	77
	M	422	35	39	33	42	21	46	34	49	39
	F	438	32	43	34	41	22	46	40	52	38
39 Rivers	T	1,685	215	186	194	115	123	223	219	140	105
	M	829	113	100	94	56	49	115	110	69	51
	F	856	102	86	100	59	74	108	109	71	54
43 Virden	T	2,933	242	308	283	266	166	293	327	291	295
	M	1,444	132	166	141	128	84	148	151	140	140
	F	1,489	110	142	142	138	82	145	176	151	155

(continued)

TABLE 1.6. POPULATION BY SPECIFIED AGE GROUPS AND SEX FOR INCORPORATED COMMUNITIES AND RURAL MUNICIPALITIES IN THE STUDY AREA, 1966 (continued)

	Total	— years of age —						70 & Over			
		0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69
<i>Rural Municipalities<sup>1</sup></i>											
4 Glenwood	T	953	93	122	113	98	35	84	120	124	90
	M	504	46	67	56	47	20	40	63	70	51
	F	449	47	55	57	51	15	44	57	54	39
30 Saskatchewan	T	1,047	115	119	118	97	54	86	121	135	118
	M	552	60	63	58	49	31	37	63	68	72
	F	495	55	56	60	48	23	49	58	67	46
6 Sifton	T	1,082	103	135	120	95	48	114	141	117	107
	M	597	57	71	60	53	30	56	77	62	63
	F	485	46	64	60	42	18	58	64	55	44
51 Hamiota	T	1,134	122	135	132	101	49	103	147	155	114
	M	622	64	76	83	50	31	50	73	84	64
	F	512	58	59	49	51	18	53	74	71	50
8 Whitehead	T	1,172	118	132	123	87	51	118	158	130	127
	M	636	65	73	64	45	29	55	87	72	76
	F	536	53	59	59	42	22	63	71	58	51
31 Shoal Lake	T	1,286	120	137	157	116	41	102	182	163	135
	M	657	65	68	77	62	16	47	93	84	75
	F	629	55	69	80	54	25	55	89	79	60

(continued)

TABLE 1.6. POPULATION BY SPECIFIED AGE GROUPS AND SEX FOR INCORPORATED COMMUNITIES AND RURAL MUNICIPALITIES IN THE STUDY AREA, 1966 (continued)

			— Years of Age —											
			Total	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70 & Over
26 Blanshard	T	1,290	126	160	158	112	52	111	144	186	123	43	75	
	M	675	70	76	82	62	30	51	72	106	69	20	37	
	F	615	56	84	76	50	22	60	72	80	54	23	38	
49 Birtle	T	1,415	132	139	182	134	70	104	199	197	144	43	71	
	M	773	67	69	101	72	41	48	104	110	94	23	44	
	F	642	65	70	81	62	29	56	95	87	50	20	27	
52 Minota	T	1,577	134	181	193	136	80	137	194	210	158	54	100	
	M	810	65	91	90	71	46	68	101	102	89	28	59	
	F	767	69	90	103	65	34	69	93	108	69	26	41	
54 Elton	T	1,593	142	207	215	138	61	132	219	210	137	55	77	
	M	818	63	99	106	72	35	65	100	117	82	34	45	
	F	775	79	108	109	66	26	67	119	93	55	21	32	
27 Harrison	T	1,629	117	149	155	160	84	126	178	198	197	75	190	
	M	864	65	73	87	84	48	66	93	100	110	31	107	
	F	765	52	76	68	76	36	60	85	98	87	44	83	
9 Woodnorth	T	1,647	136	189	218	175	62	128	199	231	161	55	93	
	M	828	63	88	105	84	28	67	101	112	97	30	53	
	F	819	73	101	113	91	34	61	98	119	64	25	40	

(continued)

TABLE 1.6. POPULATION BY SPECIFIED AGE GROUPS AND SEX FOR INCORPORATED COMMUNITIES AND RURAL MUNICIPALITIES IN THE STUDY AREA, 1966 (concluded)

		— Years of Age —										13		
		Total	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70 & Over	
55 Indian Reserves	T	1,800	364	348	242	161	112	182	135	93	79	31	53	
	M	907	187	169	117	76	47	98	72	45	47	22	27	
	F	893	177	179	125	85	65	84	63	48	32	9	26	
32 Strathclair	T	1,825	139	177	198	187	69	141	225	224	196	73	196	
	M	965	73	97	107	100	43	69	107	126	100	32	111	
	F	860	66	80	91	87	26	72	118	98	96	41	85	
7 Wallace	T	2,317	252	295	290	210	129	223	323	262	190	46	97	
	M	1,238	131	164	154	116	68	105	168	143	108	26	55	
	F	1,079	121	131	136	94	61	118	155	119	82	20	42	
5 Pipestone	T	2,643	243	320	342	247	137	228	333	323	219	66	185	
	M	1,408	128	164	187	145	56	116	171	180	122	32	107	
	F	1,235	115	156	155	102	81	112	162	143	97	34	78	
3 Daley	T	3,696	416	657	476	375	211	465	647	213	133	38	65	
	M	2,017	216	327	249	224	169	237	346	123	73	16	37	
	F	1,679	200	330	227	151	42	228	301	90	60	22	28	
Study Area Total	T	36,086	3,590	4,393	4,203	3,330	1,803	3,377	4,519	3,995	3,193	1,119	2,564	
	M	18,750	1,854	2,238	2,158	1,755	985	1,678	2,293	2,098	1,761	563	1,367	
	F	17,336	1,736	2,155	2,045	1,575	818	1,699	2,226	1,897	1,432	556	1,197	
Provincial Total	T	963,066	102,425	105,527	99,227	87,848	66,899	109,460	117,065	106,752	79,005	28,668	60,190	
	M	484,266	52,476	53,862	50,701	44,404	33,787	55,255	57,764	53,162	39,881	14,059	28,915	
	F	478,800	49,949	51,665	48,526	43,444	33,112	54,205	59,301	53,590	39,124	14,609	31,275	

T — Total    M — Male    F — Female

<sup>1</sup>Rural municipality data include farm and unincorporated community population but exclude population of incorporated communities.

Source: Statistics Canada.

TABLE 1.7. PROPORTION OF POPULATION FALLING WITHIN THREE SPECIFIED AGE GROUPS,  
1966

	Pre-School and School Age Groups (0 to 19 years)	Working Age Group (20 to 64 years)	Retired Age Group (65 and over)
— percent —			
<i>Incorporated Communities</i>			
38 Oak Lake	33.2	44.2	22.6
36 Rapid City	42.3	42.8	14.9
40 Hamiota	33.7	42.1	24.2
42 Shoal Lake	32.9	49.3	17.8
41 Birtle	34.8	45.0	20.2
39 Rivers	42.1	48.1	9.8
43 Virden	37.5	46.8	15.7
<i>Rural Municipalities<sup>1</sup></i>			
4 Glenwood	44.7	47.5	7.8
30 Saskatchewan	42.9	49.1	8.0
6 Sifton	41.9	48.7	9.4
51 Hamiota	43.2	50.1	6.7
8 Whitehead	39.3	49.8	10.9
31 Shoal Lake	41.2	48.5	10.3
26 Blanshard	43.1	47.8	9.1
49 Birtle	41.5	50.5	8.0
52 Miniota	40.8	49.4	9.8
54 Elton	44.1	47.6	8.3
27 Harrison	35.6	48.1	16.3
9 Woodnorth	43.6	47.4	9.0
55 Indian Reserves	61.9	33.4	4.7
32 Strathclair	38.4	46.9	14.7
7 Wallce	45.2	48.6	6.2
5 Pipestone	43.6	46.9	9.5
3 Daley	52.0	45.2	2.8
Study Area Total	43.0	46.8	10.2
Provincial Total	41.0	49.8	9.2

<sup>1</sup>Rural municipality data include farm and unincorporated community population but exclude population of incorporated communities.

### School Enrolment

It is evident from school enrolment figures (Table 1.8) that the trend in Western Canada towards school consolidation has affected the Virden study area. There were no schools in communities "too small to classify" and only two schools in the communities listed as hamlets. The hamlet of Forrest had a school with all grades from kindergarten to grade twelve, and the Griswold school offered grades one to four. Three villages had schools but none went to grade twelve. Students in the

upper grades were conveyed to schools located in greater towns. Strathclair was the only town offering complete elementary and high school grades. In the greater towns all elementary and secondary grades were available.

Special classes for the educable mentally handicapped were located in nine communities in the study area. The largest class was in Virden.

TABLE 1.8. SCHOOL ENROLMENT IN THE STUDY AREA BY GRADES, SCHOOL YEAR 1971-72

TABLE 1.8. SCHOOL ENROLMENT IN THE STUDY AREA BY GRADES, SCHOOL YEAR 1972-73 (concluded)

Delivery Point	Grades:	Special Education	Kinder-Garden	1	2	3	4	5	6	7	8	9	10	11	12	Total	Pupils Conveyed To
<i>Villages</i>																	
25 Lenore			4	8	5	3	9	9	10	8						56	9-12 Virden
26 Solsgirth																17	Birtle
27 Crandall																	Hamiota
28 Brasswood																	Minnedosa
29 Decker																	Hamiota
30 Cardale																	K-8 Oak River, 9-12 Rivers
31 Alexander			18	28	22	22	15	10	10	17	20					162	9-12 Brandon
32 Kenton			14	20	15	16	11	23	17	23	22	14				175	10-12 Hamiota
<i>Towns</i>																	
33 Oak River			11	10	21	12	19	18	17	19	15	19				161	10-12 Rivers
34 Newdale																	Strathclair
35 Minniota			11	9	17	12	20	15	24	19	17	11				155	10-12 Hamiota
36 Rapid City			8	11	17	17	20	18	22	19	17	22				171	9-12 Rivers
37 Strathclair			7	26	18	24	21	23	29	25	40	31	36	31	32	50	393
38 Oak Lake			14	23	26	34	46	34	40	32	34	40				323	10-12 Virden
<i>Greater Towns</i>																	
39 Rivers			5	32	41	51	50	42	42	44	52	46	51	68	55	102	681
40 Hamiota			9	22	25	34	36	38	49	42	34	45	52	53	54	59	552
41 Birtle			8	39	29	46	51	34	28	47	44	33	59	104	84	86	692
42 Shoal Lake			12	14	26	20	26	27	25	22	29	22	30	31	24	20	328
43 Virden			41	81	82	98	112	75	110	111	124	91	131	188	173	165	1,582
Study Area Total			104	305	351	418	438	389	430	460	476	435	489	535	473	536	5,839

Source: Manitoba Department of Education.

## Post Office Revenue

Post Office revenue serves as an indicator of socio-economic activity in a community and the area it serves (Table 1.9). None of the communities “too small to classify” except Pope had a post office still open by 1971. The post office at Arrow River closed in 1970. In 1971 nine of the fourteen hamlets had a post office and most of them showed an increase in revenue over time. All the remaining communities listed as villages, towns, and greater towns had post offices with revenues ranging from a low of \$1,316 at Decker to a high of \$57,392 at Virden. All of these communities showed increases in revenues over the time period.

TABLE 1.9. POST OFFICE REVENUE IN THE STUDY AREA, FISCAL YEARS 1962-63 TO 1970-71

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
— dollars —									
<i>Too Small to Classify</i>									
1 Maples	No Post Office								
2 Brumlie	No Post Office								
3 Pettapiece	Closed July 1955								
4 Pitlochry	No Post Office								
5 Smart	No Post Office								
6 Churnah	Closed June 1903								
7 Floors	No Post Office								
8 Ipswich	No Post Office								
9 Pope	304	269	296	332	260	275	309	356	
10 Arrow River	463	433	422	407	359	315	361	64	Closed 1970
— dollars —									
<i>Hamlets</i>									
11 Bryd	No Post Office								
12 Lavinia	290	306	297	61	Closed 1965				
13 Kelloe	207	214	206	184	188	199	231	242	
14 Kemnay	340	340	425	481	510	552	532	562	
15 Glossop	No Post Office								
16 Moline	652	676	434	448	422	423	422	476	472
17 McConnell	434	456	460	562	432	370	429	529	74
18 Oakner	404	463	466	501	441	433	402	462	549
19 Bradwardine	421	430	475	544	591	587	555	495	677
20 Harding	481	522	508	501	410	414	426	411	487
21 Isabella	796	775	820	800	873	800	821	933	1,205
22 Beulah	847	886	873	819	747	772	724	879	1,217
23 Forrest	817	956	1,131	1,367	1,421	1,442	1,492	1,567	1,937
24 Griswold	1,161	1,305	1,446	1,400	1,281	1,361	1,296	1,348	1,130

(continued)

TABLE 1.9. POST OFFICE REVENUE IN THE STUDY AREA, FISCAL YEARS 1962-63 TO 1970-71 (concluded)

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
— dollars —									
<i>Villages</i>									
25 Lenore	706	689	848	841	922	886	905	1,031	1,706
26 Solsgirth	1,094	1,205	1,304	1,295	1,287	1,224	1,236	1,244	1,570
27 Crandall	1,015	1,039	1,115	1,075	1,040	1,019	968	1,168	2,542
28 Basswood	1,241	1,292	1,316	1,457	1,398	1,376	1,291	1,521	1,978
29 Decker	845	886	908	944	948	999	959	1,012	1,316
30 Cardale	1,427	1,375	1,553	1,522	1,448	1,457	1,307	1,299	1,779
31 Alexander	1,876	1,968	2,085	2,100	2,100	2,248	2,141	2,523	3,329
32 Kenton	2,912	3,007	3,480	3,431	3,721	3,831	3,966	4,332	4,998
<i>Towns</i>									
33 Oak River	3,266	3,337	3,597	3,670	3,497	3,642	3,343	3,785	4,678
34 Newdale	3,927	3,635	4,007	4,284	4,184	4,515	4,164	4,147	4,561
35 Minota	3,171	3,383	3,827	3,772	4,025	4,123	3,950	4,152	5,008
36 Rapid City	3,794	3,736	3,981	4,248	4,205	4,053	4,468	5,221	6,050
37 Strathclair	5,008	5,569	6,060	6,252	7,197	6,936	7,691	7,948	9,159
38 Oak Lake	3,881	3,839	4,144	4,605	4,574	4,793	4,816	5,652	6,675
<i>Greater Towns</i>									
39 Rivers	14,240	14,855	16,341	16,684	16,421	17,340	18,325	19,070	19,843
40 Hamiota	8,434	8,780	10,471	11,359	11,849	12,603	14,674	16,281	18,164
41 Birtle	10,213	10,329	11,191	11,690	12,073	12,429	12,992	14,911	17,247
42 Shoal Lake	10,077	10,510	11,508	12,606	11,961	12,785	13,295	15,406	16,896
43 Virden	31,645	33,402	37,112	39,150	40,986	43,840	44,398	52,156	57,392

Source: Canada Post Office Department.

## Property Tax Assessment

The property tax assessment figures in Table 1.10 show the relative importance of railway property and other right-of-way occupancies to the total assessment of each community in the area. Generally, the larger the community with respect to number of service activities, the lower is the proportion of tax assessment related to railway associated property. This is clearly demonstrated by comparing the “too small to classify” community of Brumlie and the greater town of Virden. Right-of-way assessment as a percent of the total assessment in Virden was 6.2 percent whereas in Brumlie it was 100 percent.

TABLE 1.10. PROPERTY TAX ASSESSMENT, BY COMMUNITY, 1971

Delivery Point	To Small to Classify								
	1 Maples	2 Brumlie	3 Pettapiece	4 Pittlochry	5 Smart	6 Chumah	7 Floors	8 Ipswich	9 Pope 10 Arrow River
— dollars —									
<i>Right-of-Way Properties</i>									
Railway Property									
Land	—	450	270	630	—	520	350	220	1,940
Roadway	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Other Land	—	—	—	—	—	—	—	—	40
Other Trackage	—	340	880	210	270	180	180	220	330
Buildings	—	—	—	—	—	—	320	—	220
Business	—	—	—	—	—	—	—	—	—
Other R.W.O. Occupancies	—	100	70	160	—	200	80	520	190
Taxable Land	—	6,980	7,430	11,600	—	9,700	8,990	22,890	11,570
Taxable Buildings	—	1,320	1,470	1,740	—	1,710	1,530	3,900	1,980
Taxable Business	—	10,190	11,120	15,340	1,270	13,310	12,450	28,750	17,120
Total Right-of-Way Assessment	1,000	10,190	11,120	15,340	1,270	13,310	12,450	28,750	13,710
<i>Non-Right-of-Way Properties</i>									
Taxable Land	—	—	—	—	—	—	100	200	900
Taxable Buildings	—	—	—	—	—	—	770	1,660	4,320
Taxable Business	—	—	—	—	—	—	—	—	150
Total Non-Right-of-Way Assessment	—	—	—	—	—	—	870	1,860	5,220
Total Tax Assessment	1,000	10,190	11,120	15,340	1,270	13,310	13,320	30,610	22,340
Right-of-Way Assessment as Percent of Total Assessment	100.0	100.0	100.0	100.0	100.0	100.0	93.5	93.9	76.6
									53.1

(continued)

TABLE 1.10. PROPERTY TAX ASSESSMENT, BY COMMUNITY, 1971 (continued)

Delivery Point	Hamlets										Isabella
	11	12	13	14	15	16	17	18	19	20	
<i>Right-of-Way Properties</i>											
											— dollars —
Railways/Property											
Land	430	810	580	—	420	520	760	2,610	—	—	540
Roadway	1,000	1,000	1,000	1,500	1,000	1,000	1,000	1,500	1,000	1,000	1,000
Other Land	—	—	—	1,050	—	—	—	—	660	450	20
Other Trackage	960	770	100	—	230	380	480	1,320	—	—	360
Buildings	—	120	140	710	—	100	1,360	1,060	—	—	290
Business	—	—	—	—	—	—	—	—	—	—	—
Other R.O.W. Occupancies											
Taxable Land	250	330	330	170	300	140	540	100	40	—	250
Taxable Buildings	15,610	19,270	14,570	710	19,730	16,020	23,110	8,140	15,570	—	30,900
Taxable Business	2,640	3,210	2,670	—	3,450	2,670	3,360	1,320	2,400	—	4,500
Total Right-of-Way Assessment	20,890	25,510	19,390	4,140	25,130	20,823	30,610	15,550	20,170	1,450	37,860
<i>Non-Right-of-Way Properties</i>											
Taxable Land	—	750	980	2,210	90	570	1,000	1,360	3,940	3,000	1,770
Taxable Buildings	—	8,020	3,550	17,690	1,410	4,090	6,570	9,400	26,360	27,950	9,880
Taxable Business	—	450	210	150	—	—	420	360	230	—	270
Total Non-Right-of-Way Assessment	—	9,220	4,740	20,050	1,500	4,660	7,990	11,120	30,530	30,950	11,292
Total Tax Assessment	20,890	34,730	24,130	24,190	26,630	25,490	38,600	26,670	50,700	32,400	49,780
Right-of-Way Assessment as Percent of Total Assessment	100.0	73.4	80.4	17.1	94.4	81.7	79.3	58.3	39.8	4.5	76.0

TABLE 1.10. PROPERTY TAX ASSESSMENT, BY COMMUNITY, 1971 (continued)

Delivery Point	Hamlets (cont'd)						Villages					
	22 Beulah	23 Forrest	24 Griswold	25 Lenore	26 Solsgirth	27 Crandall	28 Basswood	29 Decker	30 Cardale	31 Alexander	32 Kenton	
<i>Right-of-Way Properties</i>												
Railways/Property												
Land	1,450	490	—	—	1,190	700	780	1,160	740	—	—	—
Roadway	1,000	1,000	1,500	1,500	1,000	1,000	1,000	1,000	1,000	1,500	1,500	1,500
Other Land	180	370	1,770	1,060	210	—	—	—	—	1,320	1,320	1,150
Other Trackage	1,360	760	—	—	1,340	250	880	—	380	—	—	—
Buildings	1,160	5,510	2,920	1,490	280	920	410	—	830	2,190	2,190	2,480
Business	—	330	—	150	60	—	—	—	—	—	—	360
Other R.O.W. Occupancies												
Taxable Land	130	390	510	110	290	1,250	520	1,030	420	680	680	2,700
Taxable Buildings	16,490	32,540	39,590	18,500	37,740	13,190	45,180	32,770	38,690	32,820	32,820	60,030
Taxable Business	2,490	4,590	6,090	2,730	5,850	2,130	7,410	4,370	6,540	5,850	5,850	8,490
Total Right-of-Way Assessment	24,260	45,980	52,380	25,540	47,960	19,440	56,180	40,330	48,600	44,360	44,360	76,710
<i>Non-Right-of-Way Properties</i>												
Taxable Land	1,940	3,920	6,550	14,920	1,750	11,660	5,320	3,060	3,550	9,650	9,650	36,300
Taxable Buildings	16,130	37,220	47,960	35,680	15,410	36,040	35,460	38,150	33,200	158,500	158,500	250,100
Taxable Business	750	—	270	1,230	620	540	1,560	1,380	1,500	750	750	11,520
Total Non-Right-of-Way Assessment	18,820	41,140	54,780	51,830	17,780	48,240	42,340	42,590	38,250	168,900	168,900	297,920
Total Tax Assessment	43,080	87,120	107,160	77,370	65,740	67,680	98,520	82,920	86,850	213,260	213,260	374,630
Right-of-Way Assessment as Percent of Total Assessment	56.3	52.8	48.9	33.0	73.0	28.7	57.0	48.6	56.0	20.8	20.8	20.5

TABLE 1.10. PROPERTY TAX ASSESSMENT, BY COMMUNITY, 1971 (concluded)

Delivery Point	Towns						Greater Towns					
	33 Oak River	34 Newdale	35 Minota	36 Rapid City	37 Strathclair	38 Oak Lake	39 Rivers	40 Hamiota	41 Birtle	42 Shoal Lake	43 Virden	
<i>Right-of-Way Properties</i>												
Railways Property												
Land	670	800	1,050	N.A.	1,530	—	—	460	1,660	1,990	—	
Roadway	1,500	2,000	1,500	N.A.	2,000	7,790	22,270	3,210	12,700	3,150	12,900	
Other Land	260	—	80	N.A.	—	5,150	23,480	190	100	—	56,880	
Other Trackage	180	930	680	N.A.	910	—	—	760	1,140	1,630	—	
Buildings	1,860	3,280	2,220	17,290	2,410	3,300	88,140	3,000	3,860	4,330	19,530	
Business	—	150	270	330	150	—	1,320	—	—	420	600	
Other R.O.W. Occupancies	1,360	4,850	2,700	N.A.	5,330	2,880	7,330	9,680	5,610	23,340	73,920	
Taxable Land	47,360	66,220	22,220	40,830	54,320	36,920	55,320	55,000	51,540	66,060	134,870	
Taxable Buildings	7,530	11,130	3,210	5,550	9,660	6,060	7,230	10,050	6,090	11,850	27,120	
Total Right-of-Way Assessment	60,720	89,360	33,930	64,000	76,310	62,100	82,350	82,700	82,700	112,770	325,820	
<i>Non-Right-of-Way Properties</i>												
Taxable Land	26,790	27,250	15,550	N.A.	64,320	31,190	241,600	132,270	131,000	144,070	930,010	
Taxable Buildings	232,360	184,380	209,350	N.A.	403,700	253,070	1,309,590	646,920	563,260	505,860	3,771,140	
Taxable Business	10,290	8,295	10,890	N.A.	14,760	12,240	50,280	40,170	32,310	43,410	192,590	
Total Non-Right-of-Way Assessment	269,440	219,925	235,790	245,620	482,780	296,500	1,601,470	819,360	726,570	693,340	4,893,740	
Total Tax Assessment	330,160	309,285	269,720	309,620	559,090	358,600	1,806,560	901,710	809,270	806,110	5,219,560	
Right-of-Way Assessment as Percent of Total Assessment	18.4	28.9	12.6	20.7	13.6	17.3	11.4	9.1	10.2	14.0	6.2	

N.A. — Not available  
Source: Manitoba Department of Municipal Affairs.

### Carload Rail Traffic

The volume of rail traffic to and from a community is another indicator of economic activity although truck traffic should also be considered. Generally speaking the more people and service activities there are in a community, the more freight traffic is generated. Grain shipments at a particular delivery point depend on such inter-related factors as size of hinterland, number of permit holders, crop yields, domestic and export marketings.

Table 1.11 shows the number of carloads shipped in and out of each delivery point in the study area for the years 1962 to 1971. The type of traffic is broken down into five broad categories, namely: products of agriculture (i.e., plant products), animals and products, products of mines, products of forests and manufactures and miscellaneous. The products of agriculture category is made up almost entirely of grain and is virtually all outward. Indeed, the preponderance of all carload rail traffic in the study area is outward moving grain.

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970			
	In	Out	In	Out																																
<i>Too Small to Classify</i>																																				
1 Maples	—	84	—	37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forest	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Total	n/a	n/a	—	84	5	37	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12		
2 Brumlie	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Manufactures and Misc.	—	—	—	—	1	—	2	1	—	—	—	—	—	—	—	—	—	3	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total	n/a	n/a	n/a	n/a	n/a	44																														
3 Pettapiece	—	28	—	46	—	37	—	56	—	37	—	32	—	31	—	49	—	44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Agriculture	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forest	—	—	—	—	1	—	2	1	—	—	—	—	—	—	—	—	—	3	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Manufactures and Misc.	—	1	28	n/a	n/a	n/a	n/a	1	46	2	38	—	56	3	37	2	32	—	31	—	49	—	6	—	—	—	—	—	—	—	—	—	52			
Total	1	24	n/a	n/a	n/a	n/a	n/a	n/a	6	41	6	46	6	34	4	17	3	28	2	25	—	39	—	—	—	—	—	—	—	—	—	—	—			
4 Pitlochry	—	—	—	41	—	45	—	34	—	17	—	28	—	24	—	39	—	52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Agriculture	—	4	—	5	—	5	—	5	—	3	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forest	—	—	—	—	1	—	1	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1		
Manufactures and Misc.	—	4	24	n/a	n/a	n/a	n/a	n/a	6	41	6	46	6	34	4	17	3	28	2	25	—	39	—	—	—	—	—	—	—	—	—	—	—			
Total	—	91	—	89	—	59	—	57	—	71	—	131	—	93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
5 Smart	n/a	n/a	n/a	n/a	n/a	n/a	93																													
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Forest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total	n/a	n/a	n/a	n/a	n/a	n/a	93																													

(continued)

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970					
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out				
— carloads —																																						
6 Chumah																																						
Products of Agriculture	—	29																																				
Products of Mines	3	—	2	—	1	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Total	3	29	n/a	n/a	2	33	2	31	2	37	—	22	—	15	—	15	—	10	—	10	—	31	—	31	—	38	—	—	—	—	—	—	—	—	—			
7 Floors																																						
Products of Agriculture	—	38																																				
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	1	—	1	—	1	—	1	—	3	—	1	—	2	—	2	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1			
Total	1	38	n/a	n/a	1	53	3	57	2	64	2	35	150	34	1	30	115	70	164	75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8 Ipswich																																						
Products of Agriculture	—	94																																				
Products of Mines	1	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Total	1	94	n/a	n/a	1	118	—	111	—	147	—	64	—	45	—	45	—	64	—	64	—	51	—	51	—	51	—	51	—	51	—	51	—	51	—	51	—	
9 Pope																																						
Products of Agriculture	—																																					
Products of Mines	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total	n/a	n/a	3 <sup>1</sup>	43 <sup>1</sup>	1 <sup>1</sup>	37 <sup>1</sup>	6	58	5	48	5	37	1	35	3	37	3	37	—	37	—	37	—	37	—	37	—	37	—	37	—	37	—	37	—	37	—	

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970			
	In	Out	In	Out	In	Out																														
<b>10 Arrow River</b>																																				
Products of Agriculture	—	23	—	—	31	—	43	—	55	—	23	—	40	—	27	—	65	—	59	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	2	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	1	—	1	—	1	—	1	—	6	—	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	3	23	n/a	n/a	3	31	1	44	6	55	2	23	—	40	1	27	—	66	10	59	—	—	—	—	—	—	—	—	—	—	—	—				
<i>Hamlets</i>																																				
11 Bryd	—	43	—	—	—	—	70	—	50	—	69	—	39	—	41	—	40	—	96	—	83	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	—	44	n/a	n/a	—	70	—	50	—	39	1	41	—	40	1	96	1	83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
12 Lavinia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Agriculture	—	—	9	—	—	6	—	5	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	n/a	n/a	n/a	n/a	n/a																															
13 Kelloe	—	62	—	—	104	—	92	—	107	—	76	—	63	—	56	—	56	—	120	—	103	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Agriculture	—	5	—	—	3	—	5	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	—	—	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	5	62	n/a	n/a	5	104	5	92	3	107	—	76	—	63	—	56	—	120	1	103	—	—	—	—	—	—	—	—	—	—	—	—				
14 Kermnay	—	15	—	—	25	—	25	—	25	—	13	—	5	—	5	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Agriculture	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forests	—	1	—	—	2	—	2	—	2	—	25	2	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25			
Manufactures and Misc.	—	2	15	n/a	n/a	2	25	2	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25	1	25			

(continued)

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970					
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out						
— carloads —																																						
15 Glossop	—	109	—	—	—	139	—	126	—	150	—	116	—	47	—	90	—	207	—	156	—	—	—	—	—	—	—	—	—	—	—	—	—					
Products of Agriculture	—	1	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Forests	—	1	—	—	1	—	4	—	4	—	3	1	—	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Manufactures and Misc.	2	109	n/a	n/a	1	139	8	126	4	150	3	117	—	47	1	91	—	207	1	156	—	—	—	—	—	—	—	—	—	—	—	—						
Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a					
16 Moline	—	85	—	90	—	48	—	61	—	58	—	110	—	110	—	100	—	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Agriculture	—	4	—	5	—	3	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Manufactures and Misc.	—	—	—	—	4	85	5	90	5	48	2	61	1	58	—	110	—	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
17 McConnell	—	145	—	143	—	81	—	102	—	105	—	206	—	206	—	164	—	164	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Agriculture	—	7	—	5	—	4	—	5	—	3	—	4	—	4	—	3	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	—	—	7	145	5	143	4	81	5	102	3	105	4	206	3	164	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
18 Oakner	—	40	—	43	—	45	—	42	—	42	—	36	—	48	—	28	—	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Agriculture	—	6	—	5	—	2	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Manufactures and Misc.	—	—	—	—	31 <sup>1</sup>	39 <sup>1</sup>	6 <sup>1</sup>	37 <sup>1</sup>	6	40	6	43	2	45	—	42	1	36	—	48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
19 Bradwardine	—	71	—	118	—	115	1	101	—	118	—	97	—	54	—	70	—	109	1	125	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Products of Agriculture	—	9	—	7	—	5	—	2	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Products of Forests	—	1	—	1	—	2	—	4	—	3	—	4	—	2	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Manufactures and Misc.	10	71	8	118	8	115	7	101	3	118	5	97	2	55	1	70	1	110	1	125	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(continued)

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970			
	In	Out	In	Out	In	Out																														
— carloads —																																				
20 Harding	—	35	—	52	—	61	—	58	—	77	—	48	—	43	—	30	—	68	—	68	—	22	—	—	—	—	—	—	—	—	—	—	—			
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	—	35	—	52	2	61	—	58	—	77	—	48	1	43	—	30	—	68	—	68	—	22	—	—	—	—	—	—	—	—	—	—	—			
21 Isabella	—	n/a	n/a	n/a	n/a																															
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	—	n/a	n/a	n/a	n/a																															
22 Beulah	—	n/a	n/a	n/a	n/a																															
Products of Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	—	n/a	n/a	n/a	n/a																															
23 Forrest	—	n/a	n/a	n/a	n/a																															
Products of Agriculture	—	104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	1	111	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	22	217	n/a	n/a	n/a	n/a	n/a	n/a	n/a																											
24 Griswold	—	67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Agriculture	—	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Forests	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Manufactures and Misc.	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Animals and Products	19	71	n/a	n/a	n/a	n/a	n/a	n/a	n/a																											
Total	19	71	n/a	n/a	n/a	n/a	n/a	n/a	n/a																											

TABLE 1-11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

30 Cardale

Products of Eu

214

34 Newdale

(continued)

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out				
— carloads —																																				
35 Miniota																																				
Products of Agriculture	—	61																																		
Products of Mines	22	—																																		
Products of Forests	3	—																																		
Manufactures and Misc.	24	—																																		
Total	49	61	n/a	n/a	57	80	143	119	134	119	53	98	23	87	106	90	13	147	12	146																
36 Rapid City																																				
Products of Agriculture	—	118	—	226	—	185	1	183	1	231	—	161	—	131	1	138	—	212																		
Products of Mines	31	—	32	—	25	—	24	—	22	—	17	—	16	—	12	—	10	—																		
Products of Forests	4	—	1	—	3	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—																
Manufactures and Misc.	6	—	15	—	16	6	17	1	9	4	17	1	122	6	4	—	6	—																		
Total	41	118	48	226	44	191	43	184	32	235	34	162	138	137	17	138	17	138	16	212	n/a	n/a														
37 Strathclair																																				
Products of Agriculture	4	115																																		
Products of Mines	30	—																																		
Products of Forests	3	—																																		
Manufactures and Misc.	90	1																																		
Animal and Products	—	—																																		
Total	127	116	n/a	n/a	124	151	134	149	145	181	95	105	105	111	56	68	38	218	40	146																
38 Oak Lake																																				
Products of Agriculture	—	105																																		
Products of Mines	38	—																																		
Products of Forests	6	—																																		
Manufactures and Misc.	55	—																																		
Animals and Products	—	1																																		
Total	99	106	n/a	n/a	279	132	81	124	74	164	83	103	46	82	58	106	36	147	21	96																

(continued)

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (continued)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out		
<b>Greater Towns</b>																																				
<b>39 Rivers</b>																																				
Products of Agriculture																																				
Products of Mines																																				
Products of Forests																																				
Manufactures and Misc.																																				
Animals and Products																																				
Total	n/a	n/a	667 <sup>1</sup>	293 <sup>1</sup>	133 <sup>1</sup>	199 <sup>1</sup>	135	245	149	258	138	188	97	163	60	215	13	283	10	301																
<b>40 Hamiota</b>																																				
Products of Agriculture	4	121																																		
Products of Mines	37	—																																		
Products of Forests	9	—																																		
Manufactures and Misc.	161	—																																		
Total	211	121	n/a	n/a	166	167	155	210	131	224	115	151	91	156	68	143	57	261	68	200																
<b>41 Birtle</b>																																				
Products of Agriculture	3	120																																		
Products of Mines	52	—																																		
Products of Forests	3	—																																		
Manufactures and Misc.	106	—																																		
Animals and Products	—	—																																		
Total	164	120	n/a	n/a	175	179	176	192	147	265	129	123	82	120	81	126	86	248	25	188																
<b>42 Shoal Lake</b>																																				
Products of Agriculture	8	77																																		
Products of Mines	46	—																																		
Products of Forests	5	—																																		
Manufactures and Misc.	163	—																																		
Total	222	77	n/a	n/a	248	136	236	133	238	175	199	118	151	76	87	55	71	163	38	128																

TABLE 1.11. REVENUE CARLOAD RAIL TRAFFIC BY DELIVERY POINT IN THE STUDY AREA, 1962 TO 1971 (concluded)

Delivery Point	1962				1963				1964				1965				1966				1967				1968				1969				1970				
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out					
— carloads —																																					
43 Virden C.N.	—	43	—	90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Products of Agriculture	—	—	52	—	—	27	—	9	—	5	—	5	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Mines	63	—	—	—	—	1	—	3	—	5	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Forests	6	—	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Manufactures and Misc.	95	—	109	—	—	9	—	10	—	18	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Animals and Products	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Total	164	43	174	90	148 <sup>1</sup>	44 <sup>1</sup>	37	—	22	—	28	—	14	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
43 Virden C.P.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Agriculture	8	2	30	76	13	152	5	232	5	152	—	147	3	158	2	312	2	219	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Products of Mines	66	1	60	—	68	—	67	—	55	—	41	—	35	—	30	—	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Products of Forests	30	—	24	—	19	—	37	—	18	—	14	—	10	—	8	—	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Manufactures and Misc.	376	1	366	11	479	5	379	2	360	2	325	—	309	2	273	3	219	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Animals and Products	3	36	—	2	59	1	65	—	55	—	137	1	101	1	91	1	99	1	77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Total	483	40	n/a	n/a	482	146	580	222	488	289	438	291	381	248	358	251	314	414	262	299	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Products of Agriculture — All grains, seeds, flour, hay and straw, fruits and vegetables, etc.

Products of Mines — Coal, mineral ores and concentrates, cement, brick, asphalt, etc.

Products of Forests — Logs, lumber, all processed natural wood, plywood, shingles, etc.

Manufactures and Misc. — Petroleum products, chemicals, fertilizers, machinery and parts, vehicles, etc.

Animals and Products — All livestock, poultry, meats, fish, dairy products, etc.

n/a — No information available.

1 — For those points with no build up of railway traffic, only totals were available.

Source: Canadian National Railways.

Canadian Pacific Railways.

## Railway Freight Traffic Density

Table 1.12 shows the freight traffic density in thousands of net tons per mile of road, over nine railway subdivisions of the Canadian National and Canadian Pacific Railways located in the Virden region. This is also shown in Figure 1.2, a map which separates those lines with a density greater than 100,000 net tons per mile from those with less than 100,000 net tons per mile in 1968. Some transport authorities attempt to measure the profitability of a line by its traffic density or by the traffic generated on that extent of line. This measurement, however, does not take into account the nature of the freight carried or the revenue earned.

The density in the study area in 1968 ranged from 30 thousand net tons on the Lenore subdivision to almost 8 million net tons on the Rivers subdivision between Rivers and Miniota.

TABLE 1.12. RAILWAY FREIGHT TRAFFIC DENSITY ON LINES IN THE STUDY AREA, 1963, 1966 AND 1968

Railway Subdivision	Year	From	To	Net Tons per Mile of Road	Miles
— 000's —					
<i>Canadian National</i>					
Rapid City	1963	Rapid City	Beulah	47	48
	1966	Rapid City	Beulah	49	48
	1968	Rapid City	Beulah	41	48
Minota	1963	Smart	Minota	6,538	47
Harte	1966	Smart	Rivers	7,844	11
Rivers	1966	Rivers	Minota	7,566	36
Harte	1968	Smart	Rivers	n.a.	11
Rivers	1968	Rivers	Minota	7,911	36
Hartney	1963	Maples	Virden	33	4
Scarth	1966	Maples	Virden	24	4
Hartney	1968	Maples	Virden	41	4
<i>Canadian Pacific</i>					
Bredenbury	1963	Basswood	Birtle	2,232	49
	1966	Basswood	Birtle	3,458	49
	1968	Basswood	Birtle	3,033	49
Minota	1963	Pettapiece	Minota	59	39
	1966	Pettapiece	Minota	79	39
	1968	Pettapiece	Minota	36	39
Rapid City	1963	Forrest	Rapid City	100	20
Rapid City	1966	Forrest	Rapid City	n.a.	20
Minota	1968	Forrest	Rapid City	81	20
Lenore	1963	Carnegie	Lenore	50	34
	1966	Carnegie	Lenore	60	34
	1968	Carnegie	Lenore	30	34
Neudorf	1963	Virden	Harmsworth	243	9
	1966	Virden	Harmsworth	304	9
	1968	Virden	Harmsworth	71	9
Broadview	1963	Kemnay	Virden	5,669	39
	1966	Kemnay	Virden	8,920	39
	1968	Kemnay	Virden	6,486	39

n.a. — Not available.

Source: Canadian National Railways.  
Canadian Pacific Railways.

# RAILWAY FREIGHT DENSITY, VIRDEN REGION 1968

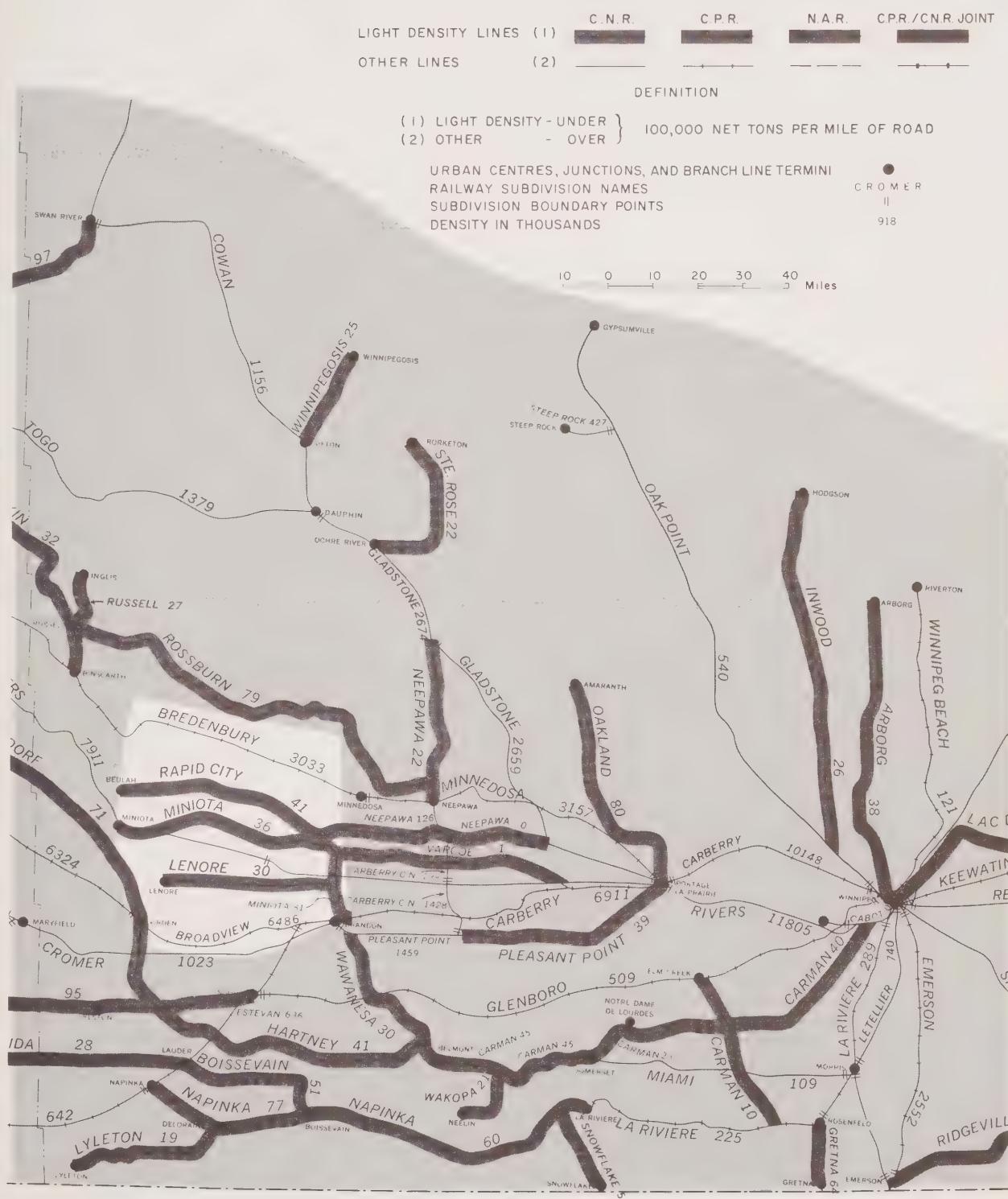


FIGURE 1.2

### **Highway Transportation Services**

Most communities in the study area are served by one or more trucking companies. The names of for-hire common and contract carriers servicing each centre are listed in Table 1.13. Excluded from this list are, of course, farm trucks as well as private urban and private intercity truckers.

TABLE 1.13. TRUCK SERVICES BY COMMUNITY, 1971

- For-Hire-Carriers -									
	Swan River The Pas Trans.	J.C. Curry	C.N. Trans	Samples Transfer	Taylor & Son Ltd	Bennett Trans.	Virden Freight- ways	McGregor Transfer	W.E. Bicknell Transfer
Delivery Point									
<i>Too Small to Classify</i>									
9 Pope									X
10 Arrow River									X
<i>Hamlets</i>									
12 Lavinia									X
13 Kellow									X
14 Kemnay									X
16 Moline									X
17 McConnell									X
18 Oakner									X
19 Bradwardine									X
20 Harding									X
21 Isabella									X
22 Beulah									X
23 Forrest									X
24 Griswold									X

(continued)

TABLE 1.13. TRUCK SERVICES BY COMMUNITY, 1971 (concluded)

— For-Hire-Carriers —												
	Swan River The Pas Trans.	J.C. Curry	C.N. Trans	Samples & Transfer	Taylor & Son Ltd	Bennett Trans.	Freight- ways	McGregor Transfer	W.E. Bicknell Transfer	Hamiota Kenton Trans.	Decker Trans.	C.P. Trans.
<i>Villages</i>												
25 Lenore					X					X		X
26 Solsgirth							X				X	X
27 Crandall										X		X
28 Basswood											X	X
29 Decker											X	
30 Cardale					X							
31 Alexander							X					
32 Kenton								X				
<i>Towns</i>												
33 Oak River						X				X		
34 Newdale						X					X	X
35 Minota										X		X
36 Rapid City						X					X	X
37 Strathclair											X	X
38 Oak Lake								X				
<i>Greater Towns</i>												
39 Rivers									X			
40 Hamiota										X		
41 Birtle										X		X
42 Shoal Lake										X		X
43 Virden									X			

Source: Manitoba Truckers Association.

## PART II

### GRAIN PRODUCTION CHARACTERISTICS

#### Soil Capability for Agriculture

The Virden study area is in west-central Manitoba, south of Riding Mountain National Park, and is on the Second Prairie Steppe. Elevation ranges from 2,300 feet above sea level in the Park to about 1,200 feet where the Assiniboine River flows out of the area. Drainage is provided by the Assiniboine, Minnedosa, and Birdtail Rivers and their tributaries.

Most of the area has Chernozemic Black soils developed on moderately calcareous deposits with textures ranging from fine gravel to clay. The soils with medium to fine textures are highly productive and are dominantly Class 2; those with increasingly coarse textures and/or increasingly sharper slopes are downgraded accordingly.

Regosolic soils occur mainly in areas periodically flooded by streams. In general these soils are medium to fine textured and are highly fertile. Although the flooding period is usually over by seeding time, the wetness often seriously delays spring operations. As a result of these limitations the soils are in Classes ranging from 2 to 5.

Gleysolic soils are the periodically or permanently wet types found widespread over the area in sloughs, marshes and other enclosed basins. These soils range in textures from gravel to clay. Soil capabilities range from Classes 3 and 4 in areas where surface drainage is practicable to Classes 5 and 6 where wetness prohibits the growing of annual crops.

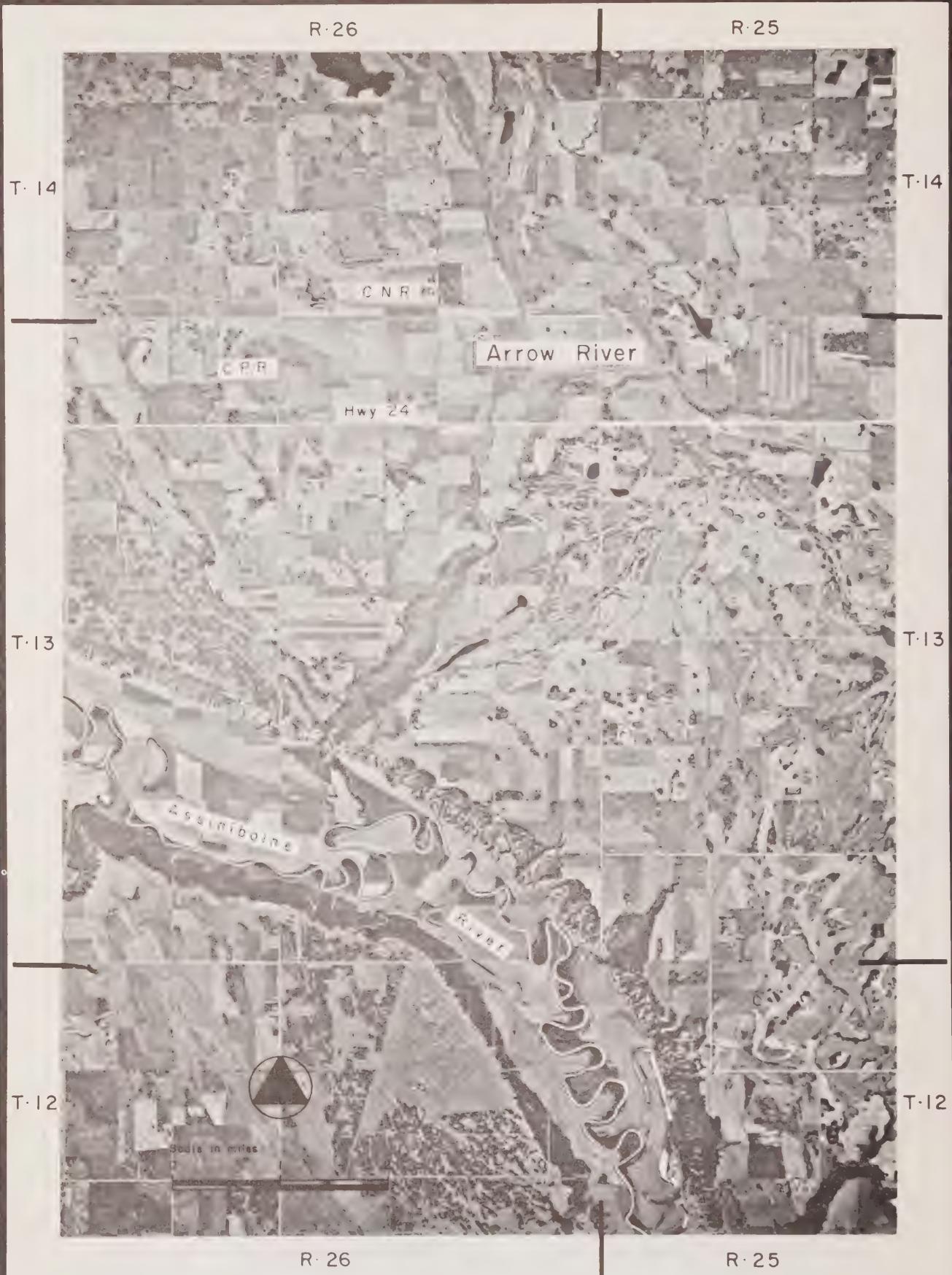
Of the crops grown, wheat occupies the largest acreage followed by oats, flax, hay, barley, rye, mixed grain, corn and rapeseed. Livestock production is common throughout the area. Native vegetation is mainly grassland with scattered bluffs of trees.

#### Sample Aerial Photos

Figures 2.1 and 2.2 are single aerial photographs taken in the vicinity of Arrow River and Rivers, Manitoba respectively on July 27, 1970 at a contact scale of about 1/80,000. Each photograph depicts just over 121 square miles.

Much native and wooded pasture land and hay land exists throughout the area in Figure 2.1. The area shown in Figure 2.2 contains many sloughs, which severely limit crop production. The amount of pasture plus the patterns of the buildings and the activity associated with the farmsteads in both photographs indicates there is some emphasis on livestock in this livestock and cash crop area.

The large man-made, triangular pattern in the bottom central part of Figure 2.1 and just south of the Assiniboine River is the result of brush clearing activity.



Aerial View Of Arrow River Area



Aerial View Of Rivers Area

### Temperature Norms and Extremes

The meteorological data for the study area shown in Table 2.1 are taken from four stations in the region. The climate of the area is continental, characterized by relatively hot summers (maximum 108°F) and cold winters (minimum -53°F). The mean summer temperature (May to September) is approximately 58°F. The mean winter temperature (November to March) is approximately 9°F.

TABLE 2.1. TEMPERATURES: MONTHLY NORMS AND EXTREMES AT METEOROLOGICAL STATIONS IN THE STUDY AREA

Meteorological Station	January	February	March	April	May	June	July	August	September	October	November	December	Year
— degrees Fahrenheit —													
Birthe													
Mean Daily Maximum <sup>1</sup>	7.1	13.3	26.2	46.5	63.0	70.0	77.4	75.3	64.0	51.1	28.3	14.4	44.8
Mean Daily Minimum <sup>1</sup>	- 8.8	- 5.9	6.1	25.7	38.3	46.8	52.6	49.9	39.9	29.5	13.5	- 0.9	23.9
Mean Daily Temperature <sup>1</sup>	- 0.9	3.7	16.2	36.2	50.7	58.4	65.0	62.7	52.0	40.5	20.9	6.8	34.4
Maximum Temperature <sup>2</sup>	43	50	65	88	96	105	104	101	99	88	66	56	105
Minimum Temperature <sup>2</sup>	-50	-48	-50	-25	8	24	24	26	9	-16	-30	-53	-53
Hamriota													
Mean Daily Maximum <sup>1</sup>	8.0	13.9	27.1	47.6	63.2	71.7	79.6	76.4	65.0	51.8	28.9	14.7	45.7
Mean Daily Minimum <sup>1</sup>	- 9.6	- 6.8	6.5	26.3	38.6	47.7	53.5	50.5	40.3	29.8	13.4	- 1.3	24.1
Mean Daily Temperature <sup>1</sup>	- 0.8	3.6	16.8	37.0	50.9	59.7	66.6	63.5	52.7	40.8	21.2	6.7	34.9
Maximum Temperature <sup>3</sup>	42	51	66	88	96	108	107	100	95	87	64	55	108
Minimum Temperature <sup>3</sup>	-50	-50	-51	-20	7	27	29	28	13	- 8	-34	-43	-51
Rivers													
Mean Daily Maximum <sup>4</sup>	8.7	13.1	26.7	47.1	62.9	70.3	78.1	75.4	64.0	51.2	29.3	16.1	45.2
Mean Daily Minimum <sup>4</sup>	- 8.1	- 5.3	8.5	27.9	40.3	49.9	55.7	53.4	43.4	31.8	14.7	- 0.1	26.0
Mean Daily Temperature <sup>4</sup>	0.3	3.9	17.6	37.5	51.6	60.1	66.9	64.4	53.7	41.5	22.0	8.0	35.6
Maximum Temperature <sup>1</sup>	41	45	67	89	94	97	99	98	96	85	63	54	99
Minimum Temperature <sup>1</sup>	-47	-44	-44	-10	15	29	36	32	18	2	-27	-39	-47
Virden <sup>5</sup>													
Mean Daily Maximum <sup>1</sup>													
Mean Daily Minimum <sup>1</sup>													
Mean Daily Temperature <sup>1</sup>													
Maximum Temperature <sup>2</sup>													
Minimum Temperature <sup>2</sup>													

<sup>1</sup> Normals were computed directly from a period of record of 25 to 30 years within the period 1931-1960. In most cases the record existed over the full 30 years.<sup>2</sup> These averages were obtained by taking a 10-year period of record, ending in the early 1960's. No adjustment factor was used.<sup>3</sup> These averages are based on the complete 10-years of record from 1951-1960. No adjustment factor was used.<sup>4</sup> The data for these normals were from the full 10-year period 1951-1960 adjusted to the standard normal period 1931-1960.<sup>5</sup> Virden is a summer station only.

Source: Canada Department of Transport, Meteorological Branch.

## Precipitation

Precipitation is fairly uniform over the area, averaging around 18 inches annually. Rainfall efficiency, increases from west to east and from south to north. Approximately three quarters of the precipitation falls as rain during the summer and the remainder as snow during November to March. The conversion factor used is 10 inches of snow equals one inch of rain. Table 2.2 shows monthly and annual average precipitation at the four meteorological stations in the study area. Hamiota and Virden are summer stations only.

TABLE 2.2. PRECIPITATION: MONTHLY AND ANNUAL MEANS AT METEOROLOGICAL STATIONS IN THE STUDY AREA

Meteorological Station	January	February	March	April	May	June	July	August	September	October	November	December	Year
— inches —													
Birtle													
Mean Rainfall <sup>1</sup>	0.01	0.01	0.06	0.52	1.65	3.64	3.09	2.63	1.58	0.59	0.13	0.01	13.92
Mean Snowfall <sup>1</sup>	6.9	5.3	7.5	3.7	1.0	0.0	0.0	0.2	3.3	7.5	6.8	6.8	42.2
Mean Total Precipitation <sup>3</sup>	0.70	0.54	0.81	0.89	1.75	3.64	3.09	2.63	1.60	0.92	0.88	0.69	18.14
Ham iota <sup>4</sup>													
Mean Rainfall <sup>1</sup>				0.63	1.52	3.66	2.72	2.46	1.37	0.62			
Mean Snowfall <sup>1</sup>				2.1	0.3	0.0	0.0	0.0	0.1	1.5			
Mean Total Precipitation <sup>3</sup>				0.84	1.55	3.66	2.72	2.46	1.38	0.77			
Rivers													
Mean Rainfall <sup>2</sup>	0.01	0.01	0.07	0.54	1.79	3.77	2.96	2.28	1.51	0.64	0.16	0.01	13.75
Mean Snowfall <sup>2</sup>	8.0	7.8	8.9	3.2	0.9	0.0	0.0	0.0	0.2	2.9	8.8	8.7	49.4
Mean Total Precipitation <sup>3</sup>	0.81	0.79	0.96	0.86	1.88	3.77	2.96	2.28	1.53	0.93	1.04	0.88	18.69
Virden <sup>4</sup>													
Mean Rainfall <sup>1</sup>				0.51	1.70	3.59	2.68	2.54	1.42	0.73			
Mean Snowfall <sup>1</sup>				3.2	0.8	0.0	0.0	0.0	T	2.5			
Mean Total Precipitation <sup>3</sup>				0.83	1.78	3.59	2.68	2.54	1.42	0.98			

<sup>1</sup>Normals were computed directly from a period of record of 25 to 30 years within the period 1931-1960. In most cases the record existed over the full 30 years.<sup>2</sup>These averages are based on the period of record of 10 to 24 years during the period 1931 to 1960. No adjustment factor has been used.<sup>3</sup>Total precipitation measured in inches of rain. Ten inches of snow equal one inch of rain.<sup>4</sup>Ham iota and Virden are summer stations only.

T (Trace) - less than .005 inches of precipitation.

Source: Canada Department of Transport, Meteorological Branch.

### Sales of Farm Land in the Study Area

An overview of farm land transactions in the study area is provided by the data in Table 2.3. Two hundred and eighty-five transactions were examined in the period from 1963 to 1970. The greatest number of sales took place in 1965 and 1967 when 52 and 51 transactions respectively were undertaken. The smallest number of transactions, six, took place in 1970. Family and other types of deals involving concessions or premiums that would distort the value data were excluded from the tabulations. Only Farm Credit Corporation transactions were taken into consideration.

Average prices increased until and including 1968 and then dropped substantially. Three factors which tend to influence the observed price levels are: Class 1 and 2 land is generally higher priced relative to Class 3 and 4; general economic inflation is in time reflected in rising land values; and finally, when grain marketings keep pace with production, there is an upward pressure on land values, but when the supply of grain becomes too large relative to demand the pressure on land values is downward.

TABLE 2.3. REPRESENTATIVE LAND VALUES BY SALE PRICE PER ACRE IN THE STUDY AREA, 1963 TO 1970

Year	Number of Transactions	Total Acreage	Price per Acre <sup>1</sup>		
			Low	High	Average
1963	39	13,380	\$ 11.72	\$ 97.80	\$ 43.71
1964	35	12,593	18.81	93.75	48.12
1965	52	15,563	14.00	100.00	57.98
1966	47	14,551	15.70	169.23	64.30
1967	51	15,505	34.11	129.87	73.48
1968	37	12,775	24.22	125.00	74.96
1969	18	5,177	33.06	101.56	71.18
1970	6	2,583	28.12	88.89	51.61

<sup>1</sup> Less improvements

Source: Farm Credit Corporation.

### Land Use of Farm Acreage

The number of acres associated with each delivery point and land use are shown in some detail for two crop years in Tables 2.4 and 2.5. This information is provided by the farmers in the affidavits substantiating their requests for delivery permit books.

Total farm acreage decreased for the study area as a whole. By 1969-70 farm acreage had decreased by 17,776 acres from the 1962-63 level. The majority of the points lost acreage while 16 gained. There was no clear pattern as to whether size of community made a difference in these increases or decreases, however the biggest

gain was at the largest community, Virden, which gained 53,513 acres over the 1962-63 total. Some smaller communities closed completely, for example, Maples (35,960 acres, 1962-63) and Kemnay (8,165 acres, 1962-63).

Some changes occurred in the land use pattern between 1962-63 and 1969-70 in the total study area. Cropping practices approximated a three-year rotation of summer fallow, hard wheat, oats and other crops. One quarter to one third of the land was unimproved and did not enter into the rotation.

There were increases in barley, rye, flaxseed and rapeseed. Barley acreage increased by 66,875 acres between 1962-63 and 1969-70. Flaxseed acreage increased by 18,728 acres and rye and rapeseed acreage increased by approximately 10,000 acres in the same time period. Hard red spring wheat, oats and barley were predominant in the study area in 1969-70 as against just wheat and oats in 1962-63. Land use at individual delivery points varies somewhat from point to point.

TABLE 2.4. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1962-63

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
<i>Too Small to Classify</i>												
1 Maples	4,984	328	3,848	727	100	8,067	4,281	2,233	—	—	11,392	35,960
Acres	13.9	0.9	10.7	2.0	0.3	22.4	11.9	6.2	—	—	31.7	100.0
Percent												
2 Brumlie												
Acres												
Percent												
3 Pettapiece	2,762	89	412	549	—	3,276	85	110	—	15	3,112	10,410
Acres	26.5	0.8	4.0	5.3	—	31.5	0.8	1.1	—	0.1	29.9	100.0
Percent												
4 Pittlochry	1,947	—	911	394	—	2,820	58	122	—	90	2,351	8,693
Acres	22.4	—	10.5	4.5	—	32.4	0.7	1.4	—	1.0	27.1	100.0
Percent												
5 Smart												
Acres												
Percent												
6 Churnah	1,868	—	653	216	62	2,631	241	137	—	20	2,534	8,362
Acres	22.3	—	7.8	2.6	0.8	31.5	2.9	1.6	—	0.2	30.3	100.0
Percent												
7 Floors	2,941	20	1,268	564	—	3,728	569	117	—	140	4,285	13,632
Acres	21.6	0.1	9.3	4.1	—	27.4	4.2	0.9	—	1.0	31.4	100.0
Percent												
8 Ipswich	4,654	—	2,180	3,591	—	6,873	523	681	—	96	11,786	30,384
Acres	15.3	—	7.2	11.8	—	22.6	1.7	2.3	—	0.3	38.8	100.0
Percent												
9 Pope	2,435	50	1,311	86	15	2,993	437	63	—	—	4,282	11,672
Acres	20.9	0.4	11.2	0.7	0.1	25.7	3.8	0.5	—	—	36.7	100.0
Percent												
10 Arrow River	2,182	—	1,175	152	197	2,617	685	115	—	29	5,344	12,496
Acres	17.5	—	9.4	1.2	1.6	20.9	5.5	0.9	—	0.2	42.8	100.0
Percent												

(continued)

TABLE 2.4. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1962-63 (continued)

	Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
<i>Hamlets</i>													
11 Bryd	Acres	2,309	30	533	1,488	—	3,510	138	188	—	10	6,025	14,231
	Percent	16.2	0.2	3.7	10.5	—	24.7	1.0	1.3	—	0.1	42.3	100.0
12 Lavinia	Acres	5,736	75	1,207	915	—	6,796	290	341	—	172	6,285	21,817
	Percent	26.3	0.3	5.5	4.2	—	31.2	1.3	1.6	—	0.8	28.8	100.0
13 Kelloe	Acres	4,718	121	1,715	4,137	—	6,129	680	105	—	128	13,718	31,451
	Percent	15.0	0.4	5.4	13.2	—	19.5	2.2	0.3	—	0.4	43.6	100.0
14 Kemnay	Acres	1,403	168	1,301	80	220	1,797	786	27	—	—	2,383	8,165
	Percent	17.2	2.1	15.9	1.0	2.7	22.0	9.6	0.3	—	—	29.2	100.0
15 Glossop	Acres	4,257	526	1,590	2,056	439	7,596	337	1,301	284	314	7,509	26,209
	Percent	16.2	2.0	6.1	7.8	1.7	29.0	1.3	5.0	1.1	1.2	28.6	100.0
16 Moline	Acres	4,478	69	1,809	732	—	6,153	499	687	—	88	7,586	22,101
	Percent	20.3	0.3	8.2	3.3	—	27.8	2.3	3.1	—	0.4	34.3	100.0
17 McConnell	Acres	6,188	204	3,504	2,193	10	8,509	1,126	396	—	55	11,007	33,192
	Percent	18.6	0.6	10.6	6.6	0.0	25.6	3.4	1.2	—	0.2	33.2	100.0
18 Oakner	Acres	2,419	54	1,273	166	—	3,571	266	132	—	15	3,787	11,683
	Percent	20.7	0.5	10.9	1.4	—	30.6	2.3	1.1	—	0.1	32.4	100.0
19 Bradwardine	Acres	7,986	579	2,851	513	311	9,523	1,340	592	—	110	9,845	33,650
	Percent	23.7	1.7	8.5	1.5	0.9	28.3	4.0	1.8	—	0.3	29.3	100.0
20 Harding	Acres	4,369	128	1,634	393	10	5,428	626	90	—	61	3,611	16,350
	Percent	26.7	0.8	10.0	2.4	0.1	33.2	3.8	0.5	—	0.4	22.1	100.0

(continued)

TABLE 2.4. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1962-63 (continued)

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
21 Isabella												
Acres	8,503	531	3,428	1,209	97	10,819	1,170	397	—	230	12,755	39,139
Percent	21.7	1.4	8.8	3.1	0.2	27.6	3.0	1.0	—	0.6	32.6	100.0
22 Beulah												
Acres	10,452	215	3,725	423	544	10,388	1,949	308	—	369	15,475	43,848
Percent	23.8	0.5	8.5	1.0	1.2	23.7	4.5	0.7	—	0.8	35.3	100.0
23 Forrest												
Acres	13,175	1,434	4,947	2,698	5,1	—	15,323	2,458	836	—	59	12,131
Percent	24.8	2.7	9.3	5.1	—	28.9	4.6	1.6	—	0.1	22.9	100.0
24 Griswold												
Acres	12,929	390	4,790	1,260	515	16,095	1,663	468	—	363	12,903	51,376
Percent	25.2	0.8	9.3	2.5	1.0	31.3	3.2	0.9	—	0.7	25.1	100.0
<i>Villages</i>												
25 Lenore												
Acres	10,486	575	8,803	1,721	1,147	13,897	4,630	355	—	93	22,069	63,776
Percent	16.4	0.9	13.8	2.7	1.8	21.8	7.3	0.6	—	0.1	34.6	100.0
26 Solsgirth												
Acres	9,820	219	4,461	2,005	245	11,804	1,936	452	40	405	21,125	52,512
Percent	18.7	0.4	8.5	3.8	0.5	22.5	3.7	0.8	0.1	0.8	40.2	100.0
27 Crandall												
Acres	7,054	186	2,788	789	190	10,249	926	1,189	—	25	12,962	36,358
Percent	19.4	0.5	7.7	2.2	0.5	28.2	2.5	3.3	—	0.1	35.6	100.0
28 Basswood												
Acres	8,471	672	3,004	2,740	—	12,524	2,330	668	—	28	17,152	47,589
Percent	17.8	1.4	6.3	5.8	—	26.3	4.9	1.4	—	0.1	36.0	100.0
29 Decker												
Acres	8,113	635	2,776	1,319	20	10,090	1,045	346	—	473	9,063	33,880
Percent	23.9	1.9	8.2	3.9	0.1	29.8	3.1	1.0	—	1.4	26.7	100.0
30 Cardale												
Acres	8,847	153	4,370	2,139	—	13,186	872	1,855	—	108	14,467	45,997
Percent	19.2	0.3	9.5	4.7	—	28.7	1.9	4.0	—	0.2	31.5	100.0
31 Alexander												
Acres	11,846	874	5,501	1,971	961	13,760	2,509	1,408	—	25	13,299	52,154
Percent	22.7	1.7	10.6	3.8	1.8	26.4	4.8	2.7	—	0.0	25.5	100.0
32 Kenton												
Acres	9,737	145	4,640	793	266	11,814	3,148	178	32	377	9,134	40,264
Percent	24.2	0.4	11.5	2.0	0.7	29.3	7.8	0.4	0.1	0.9	22.7	100.0

TABLE 2.4. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1962-63 (concluded)

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
<i>Towns</i>												
33 Oak River												
Acres	9,173	313	3,297	1,782	—	12,402	943	1,390	140	160	11,635	41,235
Percent	22.2	0.8	8.0	4.3	—	30.1	2.3	3.4	0.3	0.4	28.2	100.0
34 Newdale												
Acres	10,540	67	3,605	2,779	—	14,071	1,923	961	—	486	18,326	52,758
Percent	20.0	0.1	6.8	5.3	—	26.7	3.7	1.8	—	0.9	34.7	100.0
35 Minota												
Acres	6,415	185	4,725	793	482	8,754	3,315	375	—	38	21,383	46,465
Percent	13.8	0.4	10.2	1.7	1.0	18.9	7.1	0.8	—	0.1	46.0	100.0
36 Rapid City												
Acres	11,966	546	4,644	2,335	—	16,406	1,691	723	—	108	20,287	58,706
Percent	20.4	0.9	7.9	4.0	—	27.9	2.9	1.2	—	0.2	34.6	100.0
37 Strathclair												
Acres	4,937	348	2,088	3,167	155	8,346	1,052	791	220	13	9,457	30,574
Percent	16.2	1.1	6.8	10.4	0.5	27.3	3.4	2.6	0.7	0.1	30.9	100.0
38 Oak Lake												
Acres	8,389	846	10,084	1,746	1,081	14,739	7,751	982	—	635	41,874	88,127
Percent	9.5	1.0	11.5	2.0	1.2	16.7	8.8	1.1	—	0.7	47.5	100.0
<i>Greater Towns</i>												
39 Rivers												
Acres	14,340	455	4,286	1,177	407	16,146	1,547	843	—	573	15,008	54,782
Percent	26.2	0.8	7.8	2.2	0.7	29.5	2.8	1.5	—	1.1	27.4	100.0
40 Hamiota												
Acres	8,806	129	3,806	1,266	—	12,634	1,371	581	—	19	10,752	39,364
Percent	22.4	0.3	9.7	3.2	—	32.1	3.5	1.5	—	0.0	27.3	100.0
41 Birtle												
Acres	10,970	597	5,562	1,118	1,681	12,295	4,080	80	—	265	23,946	60,594
Percent	18.1	1.0	9.2	1.9	2.8	20.3	6.7	0.1	—	0.4	39.5	100.0
42 Shoal Lake												
Acres	5,938	104	2,688	3,644	5	9,079	801	412	50	157	19,011	41,889
Percent	14.2	0.2	6.4	8.7	0.0	21.7	1.9	1.0	0.1	0.4	45.4	100.0
43 Virden												
Acres	4,356	630	5,083	772	920	6,517	5,322	1,274	—	160	14,553	39,587
Percent	11.0	1.6	12.8	2.0	2.3	16.5	13.4	3.2	—	0.4	36.8	100.0
Study Area Total												
Acres	282,899	12,690	132,276	58,598	10,080	373,355	67,399	24,309	766	6,512	495,609	1,464,493
Percent	19.3	0.9	9.0	4.0	0.7	25.5	4.6	1.7	0.1	0.4	33.8	100.0
Manitoba Total												
Acres	3,110,014	137,830	2,112,824	688,347	138,867	3,581,886	1,249,177	670,172	27,585	162,201	4,084,832	15,963,735
Percent	19.5	0.9	13.2	4.3	0.9	22.4	7.8	4.2	0.2	1.0	25.6	100.0

Source: Canadian Wheat Board.

TABLE 2.5. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1969-70

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
<i>Too Small to Classify</i>												
1 Maples	Closed 1964											
Acres												
Percent												
2 Brumlie												
Acres												
Percent												
3 Pettapiece												
Acres	1,698	332	661	1,220	—	2,860	145	371	—	—	2,793	10,080
Percent	16.8	3.3	6.6	12.1	—	28.4	1.4	3.7	—	—	27.7	100.0
4 Pitlochry												
Acres	2,216	110	808	815	—	2,900	103	60	116	15	2,110	9,253
Percent	24.0	1.2	8.7	8.8	—	31.3	1.1	0.6	1.3	0.2	22.8	100.0
5 Smart												
Acres												
Percent												
6 Chumah												
Acres	1,131	—	371	328	80	1,910	123	279	50	100	1,505	5,877
Percent	19.2	—	6.3	5.6	1.4	32.5	2.1	4.7	0.9	1.7	25.6	100.0
7 Floors												
Acres	2,338	124	1,096	1,716	10	3,527	821	290	—	40	3,510	13,472
Percent	17.4	0.9	8.1	12.7	0.1	26.2	6.1	2.1	—	0.3	26.1	100.0
8 Ipswich												
Acres	2,977	40	1,727	3,307	55	5,990	267	696	259	63	8,399	23,780
Percent	12.5	0.2	7.3	13.9	0.2	25.2	1.1	2.9	1.1	0.3	35.3	100.0
9 Pope												
Acres	3,838	140	1,354	1,215	236	5,287	782	562	90	10	6,520	20,034
Percent	19.2	0.7	6.8	6.1	1.2	26.4	3.9	2.8	0.4	0.0	32.5	100.0
10 Arrow River												
Acres	3,617	260	1,573	950	295	4,018	615	373	—	133	5,577	17,411
Percent	20.8	1.5	9.0	5.5	1.7	23.1	3.5	2.1	—	0.8	32.0	100.0

(continued)

TABLE 2.5. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1969-70 (continued)

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
<i>Hamlets</i>												
11 Bryd	3,003	70	739	2,521	230	4,832	175	133	125	25	7,187	19,040
Acres	15.8	0.4	3.9	13.2	1.2	25.4	0.9	0.7	0.7	0.1	37.7	100.0
Percent												
12 Lavinia	5,032	120	977	2,202	150	7,713	51	579	356	77	3,890	21,147
Acres	23.8	0.6	4.6	10.4	0.7	36.5	0.2	2.7	1.7	0.4	18.4	100.0
Percent												
13 Keloe	4,284	55	966	3,458	50	7,874	165	383	296	182	10,518	28,231
Acres	15.2	0.2	3.4	12.2	0.2	27.9	0.6	1.4	1.0	0.6	37.3	100.0
Percent												
14 Kermay												
Acres												
Percent												
15 Glossop	4,463	282	1,149	3,432	377	9,913	227	1,356	1,476	132	7,176	29,983
Acres	14.9	0.9	3.8	11.5	1.3	33.1	0.8	4.5	4.9	0.4	23.9	100.0
Percent												
16 Moline	4,635	131	1,657	2,286	45	7,760	178	915	110	75	7,349	25,141
Acres	18.4	0.5	6.6	9.1	0.2	30.9	0.7	3.7	0.4	0.3	29.2	100.0
Percent												
17 McConnell	5,184	145	2,436	4,731	296	8,770	604	1,557	267	161	8,151	32,302
Acres	16.1	0.5	7.5	14.6	0.9	27.2	1.9	4.8	0.8	0.5	25.2	100.0
Percent												
18 Oakner	2,810	112	1,179	1,764	77	5,046	299	445	165	—	4,761	16,658
Acres	16.8	0.7	7.1	10.6	0.4	30.3	1.8	2.7	1.0	—	28.6	100.0
Percent												
19 Bradwardine	5,275	867	2,421	1,568	881	8,596	1,402	721	—	15	8,179	29,925
Acres	17.6	2.9	8.1	5.2	3.0	28.7	4.7	2.4	—	0.1	27.3	100.0
Percent												
20 Harding	3,666	198	1,359	895	—	3,975	477	431	—	—	3,159	14,160
Acres	25.9	1.4	9.6	6.3	—	28.1	3.4	3.0	—	—	22.3	100.0
Percent												

(continued)

TABLE 2.5. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1969-70 (continued)

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
21 Isabella												
Acres	9,231	153	3,427	2,459	77	10,311	400	320	96	50	8,063	34,587
Percent	26.7	0.4	9.9	7.1	0.2	29.8	1.2	0.9	0.3	0.2	23.3	100.0
22 Beulah												
Acres	8,972	531	3,475	1,673	740	10,573	1,748	155	75	80	12,658	40,680
Percent	22.1	1.3	8.5	4.1	1.8	26.0	4.3	0.4	0.2	0.2	31.1	100.0
23 Forrest												
Acres	10,554	1,145	3,666	5,030	377	16,162	1,746	2,163	350	140	8,865	50,203
Percent	21.0	2.3	7.3	10.0	0.7	32.2	3.5	4.3	0.7	0.3	17.7	100.0
24 Griswold												
Acres	10,168	305	4,985	4,068	799	16,376	1,674	1,578	100	105	12,273	52,431
Percent	19.4	0.6	9.5	7.8	1.5	31.2	3.2	3.0	0.2	0.2	23.4	100.0
<i>Villages</i>												
25 Lenore												
Acres	10,322	421	8,586	3,299	518	12,272	5,021	206	60	—	20,165	60,870
Percent	17.0	0.7	14.1	5.4	0.9	20.2	8.2	0.3	0.1	—	33.1	100.0
26 Solsgirth												
Acres	11,570	395	5,587	5,114	719	15,593	1,346	1,268	496	408	19,717	62,213
Percent	18.6	0.6	9.0	8.2	1.1	25.1	2.2	2.0	0.8	0.7	31.7	100.0
27 Crandall												
Acres	5,383	140	1,601	943	728	9,397	325	1,791	246	—	9,489	30,043
Percent	17.9	0.5	5.3	3.1	2.4	31.3	1.1	6.0	0.8	—	31.6	100.0
28 Basswood												
Acres	9,294	187	2,629	5,070	158	13,764	1,637	852	407	323	15,756	50,077
Percent	18.6	0.4	5.2	10.1	0.3	27.5	3.3	1.7	0.8	0.6	31.5	100.0
29 Decker												
Acres	7,809	839	1,645	3,248	343	11,034	696	1,496	283	203	4,604	32,200
Percent	24.2	2.6	5.1	10.1	1.1	34.3	2.2	4.6	0.9	0.6	14.3	100.0
30 Cardale												
Acres	6,527	175	2,306	5,531	345	11,382	297	1,997	376	207	9,591	38,734
Percent	16.8	0.4	5.9	14.3	0.9	29.4	0.8	5.2	1.0	0.5	24.8	100.0
31 Alexander												
Acres	8,086	938	4,621	4,303	704	12,264	2,548	2,343	143	505	10,714	47,169
Percent	17.1	2.0	9.8	9.1	1.5	26.0	5.4	5.0	0.3	1.1	22.7	100.0
32 Kenton												
Acres	9,488	513	5,981	4,378	376	11,268	2,573	799	70	66	8,168	43,680
Percent	21.7	1.2	13.7	10.0	0.9	25.8	5.9	1.8	0.2	0.1	18.7	100.0

(continued)

TABLE 2.5. LAND USE OF FARM ACREAGE BY DELIVERY POINT, 1969-70 (concluded)

Delivery Point	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flaxseed	Rapeseed	Other Crops	Unimproved Land	Total
<i>Towns</i>												
33 Oak River	6,290	501	2,674	3,842	140	11,710	554	2,319	663	—	9,434	38,127
Acres	16.5	1.3	7.0	10.1	0.4	30.7	1.5	6.1	1.7	—	24.7	100.0
Percent												
34 Newdale	6,914	300	2,350	6,454	310	14,788	639	1,459	1,275	84	15,244	49,817
Acres	13.9	0.6	4.7	12.9	0.6	29.7	1.3	2.9	2.6	0.2	30.6	100.0
Percent												
35 Minniota	8,810	—	4,462	2,501	934	10,851	4,058	789	25	198	21,949	54,577
Acres	16.1	—	8.2	4.6	1.7	19.9	7.4	1.4	0.1	0.4	40.2	100.0
Percent												
36 Rapid City	8,385	413	3,647	3,956	292	14,521	1,180	1,500	485	1,036	15,589	51,004
Acres	16.4	0.8	7.1	7.8	0.6	28.5	2.3	2.9	1.0	2.0	30.6	100.0
Percent												
37 Strathclair	4,730	70	1,541	4,999	275	9,702	425	1,647	664	100	8,043	32,196
Acres	14.7	0.2	4.8	15.5	0.9	30.1	1.3	5.1	2.1	0.3	25.0	100.0
Percent												
38 Oak Lake	5,393	1,201	7,645	3,693	1,903	10,155	8,902	1,074	90	490	27,668	68,214
Acres	7.9	1.8	11.2	5.4	2.8	14.9	13.0	1.6	0.1	0.7	40.6	100.0
Percent												
<i>Greater Towns</i>												
39 Rivers	13,353	600	6,598	5,237	1,852	20,290	1,202	2,507	184	125	16,079	68,027
Acres	19.6	0.9	9.7	7.7	2.7	29.8	1.8	3.7	0.3	0.2	23.6	100.0
Percent												
40 Hamiota	7,392	949	2,618	3,320	66	13,060	1,001	1,382	334	696	8,155	38,973
Acres	19.0	2.4	6.7	8.5	0.2	33.5	2.6	3.5	0.9	1.8	20.9	100.0
Percent												
41 Birtle	9,819	758	4,208	3,573	1,066	15,616	3,019	658	1,125	220	16,417	56,479
Acres	17.4	1.3	7.5	6.3	1.9	27.6	5.3	1.2	2.0	0.4	29.1	100.0
Percent												
42 Shoal Lake	5,214	—	2,930	3,960	320	8,744	580	726	120	91	14,137	36,822
Acres	14.2	—	8.0	10.7	0.9	23.7	1.6	2.0	0.3	0.2	38.4	100.0
Percent												
43 Virden	11,952	312	11,068	6,414	3,922	18,171	12,136	4,852	280	438	23,555	93,100
Acres	12.9	0.3	11.9	6.9	4.2	19.5	13.0	5.2	0.3	0.5	25.3	100.0
Percent												
Study Area Total	251,823	13,832	118,723	125,473	19,746	388,975	60,141	43,037	11,257	6,593	407,117	1,446,717
Acres	17.4	0.9	8.2	8.7	1.4	26.9	4.2	3.0	0.8	0.4	28.1	100.0
Percent												
Manitoba Total	2,890,440	178,905	1,934,462	1,337,930	168,426	3,716,358	1,196,600	928,167	150,235	225,197	3,324,459	16,051,179
Acres	18.0	1.1	12.1	8.3	1.0	23.2	7.5	5.8	0.9	1.4	20.7	100.0
Percent												

59

<sup>1</sup>The Canadian Wheat Board designated Cardale-Brumlie and Forrest-Smart to be only two delivery points whereby producers who were issued permits at Cardale and Forrest were permitted to deliver their grain to Brumlie and Smart respectively.

### Crop Yields

Table 2.6 shows crop yield data of spring wheat, durum, oats, barley and flaxseed based on the ten-year period 1962 to 1971 for each delivery point in the study area.

The yields of spring wheat and durum are similar, with average yields in the study area of 27 and 25 bushels per acre respectively. Average yields for other grains shown are oats 49, barley 38 and flaxseed 11 bushels per acre.

TABLE 2.6. TEN-YEAR AVERAGE YIELDS OF SPRING WHEAT, DURUM, OATS, BARLEY AND FLAXSEED BY DELIVERY POINT, 1962 TO 1971

Delivery Point	Spring Wheat			Durum			Oats			Barley			Flaxseed			
	High	Low	Range	High	Low	Range	High	Low	Range	High	Low	Range	High	Low	Average	
— bushels per acre —																
<i>Too Small to Classify</i>																
1 Maples	25	24	1	24 <sup>2</sup>	20	10	15 <sup>2</sup>	40	40	0	40 <sup>2</sup>	30	25	5	28 <sup>2</sup>	
2 Brumlie	Closed	36	25	11	28	33	15	18	25 <sup>7</sup>	80	40	54	55	30	25	
3 Pettapiece	30	20	10	26 <sup>9</sup>	25	20	5	22 <sup>3</sup>	50	40	44 <sup>8</sup>	50	25	25	34 <sup>8</sup>	
4 Pitlochry	28	25	3	26 <sup>4</sup>	28	20	8	25 <sup>4</sup>	50	45	48 <sup>4</sup>	45	35	10	40 <sup>4</sup>	
5 Smart	6 Chumah	30	23	7	27 <sup>9</sup>	50	50	0	50 <sup>1</sup>	80	40	56 <sup>9</sup>	50	25	25	36 <sup>9</sup>
7 Floors	35	20	15	26	40	20	20	30 <sup>5</sup>	80	40	54	65	25	40	45	
8 Ipswich	35	25	10	30	40	20	20	30 <sup>3</sup>	65	40	56	50	35	15	42	
9 Pope	35	20	15	26 <sup>9</sup>	25	20	5	22 <sup>6</sup>	65	35	30	50 <sup>9</sup>	60	35	25	45 <sup>9</sup>
10 Arrow River	25	15	10	21	25	20	5	22 <sup>3</sup>	50	30	42	40	25	15	33	
— bushels per acre —																
<i>Hamlets</i>																
11 Bryd	30	20	10	26	30	15	15	22 <sup>2</sup>	50	40	10	46	45	30	15	
12 Lavinia	35	25	10	30 <sup>9</sup>	35	20	15	29 <sup>4</sup>	65	40	25	51 <sup>9</sup>	55	35	20	
13 Keloe	35	20	15	28	30	25	5	28 <sup>2</sup>	75	35	40	52 <sup>5</sup>	55	30	25	
14 Kemnay	30	19	11	25 <sup>5</sup>	25	22	3	24 <sup>5</sup>	50	30	20	42 <sup>5</sup>	25	20	5	
15 Glossop	30	25	5	29 <sup>9</sup>	40	20	20	29 <sup>4</sup>	75	50	25	62 <sup>9</sup>	45	35	10	
16 Moline	35	23	12	29	30	25	5	27 <sup>3</sup>	70	45	25	55	45	28	17	
17 McConnell	35	25	10	31	35	20	15	29 <sup>5</sup>	70	50	20	58	55	35	20	
18 Oakner	30	20	10	24	32	20	12	27 <sup>5</sup>	60	30	30	43	55	25	30	
19 Bradwardine	30	20	10	26	30	20	10	24	50	30	20	42	60	30	30	
20 Harding	35	20	15	27 <sup>9</sup>	25	20	5	22 <sup>4</sup>	65	30	25	44 <sup>9</sup>	43	25	18	
21 Isabella	30	20	10	27 <sup>9</sup>	28	20	8	22 <sup>4</sup>	50	35	15	44 <sup>9</sup>	40	35	5	
22 Beulah	30	18	12	25	35	20	15	24 <sup>9</sup>	60	30	30	44	40	20	20	
23 Forrest	30	24	6	27	30	20	10	26	60	40	20	50	40	25	15	
24 Griswold	24	20	4	22	21	20	1	20	50	35	15	42	35	20	15	
— bushels per acre —																
<i>Villages</i>																
25 Lenore	30	18	12	24 <sup>9</sup>	25	15	10	21 <sup>8</sup>	50	30	20	39 <sup>9</sup>	50	20	30	
26 Solsgirth	30	25	5	27	30	20	10	25 <sup>5</sup>	70	40	30	55	50	30	20	
27 Crandall	35	20	15	25	30	20	10	24 <sup>5</sup>	70	35	35	48	40	20	32	
28 Basswood	30	22	8	27	28	25	3	26 <sup>7</sup>	60	50	10	58	40	30	10	
29 Decker	35	25	10	31 <sup>9</sup>	35	25	10	29 <sup>7</sup>	55	40	15	49 <sup>9</sup>	50	40	10	
30 Cardale	35	25	10	30	30	30	0	30 <sup>6</sup>	70	30	40	48	50	28	22	
31 Alexander	28	18	10	24	25	18	7	22 <sup>8</sup>	52	40	12	46	40	25	15	
32 Kenton	28	21	7	24 <sup>9</sup>	28	20	8	22 <sup>6</sup>	60	35	25	44 <sup>9</sup>	45	30	15	

(continued)

TABLE 2.6. TEN-YEAR AVERAGE YIELDS OF SPRING WHEAT, DURUM, OATS, BARLEY AND FLAXSEED BY DELIVERY POINT, 1962 TO 1971 (concluded)

Delivery Point	Spring Wheat			Durum			Oats			Barley			Flaxseed		
	10-Year			10-Year			10-Year			10-Year			10-Year		
	High	Low	Range	High	Low	Range	High	Low	Range	High	Low	Range	High	Low	Average
— bushels per acre —															
Towns															
33 Oak River	35	20	15	27	35	20	15	26 <sup>5</sup>	75	30	45	46	50	33	17
34 Newdale	30	20	10	28	30	20	10	26 <sup>5</sup>	60	40	20	50	50	35	15
35 Minota	33	20	13	24 <sup>9</sup>	20	15	5	18 <sup>4</sup>	70	37	33	47 <sup>9</sup>	50	35	15
36 Rapid City	35	24	11	27 <sup>9</sup>	30	24	6	26 <sup>6</sup>	60	38	22	48 <sup>9</sup>	50	30	20
37 Strathclair	30	20	10	26	30	25	5	29 <sup>7</sup>	80	50	30	60	50	35	15
38 Oak Lake	35	25	10	30 <sup>9</sup>	30	25	5	29 <sup>7</sup>	50	35	15	41 <sup>9</sup>	40	20	20
Greater Towns															
39 Rivers	30	17	13	23	30	15	15	22	75	30	45	48	55	25	30
40 Hamiota	35	25	10	30 <sup>9</sup>	35	15	20	28 <sup>9</sup>	70	40	30	54 <sup>9</sup>	55	35	20
41 Birtle	35	25	10	28	30	15	15	22 <sup>9</sup>	60	40	20	51	40	25	15
42 Shoal Lake	40	25	15	29	35	35	0	35 <sup>1</sup>	80	50	30	62	70	30	40
43 Virden	25	20	5	22	25	20	5	22 <sup>7</sup>	50	22	28	38	40	20	20
Study Area Total	40	15	25	27	50	10	40	25	80	22	58	49	70	20	50
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

<sup>1</sup> 1 year average.<sup>2</sup> 2 year average.<sup>3</sup> 3 year average.<sup>4</sup> 4 year average.<sup>5</sup> 5 year average.<sup>6</sup> 6 year average.<sup>7</sup> 7 year average.<sup>8</sup> 8 year average.<sup>9</sup> 9 year average.

Source: Canadian Wheat Board.

### Protein Content

Table 2.7 shows protein content for three or more samples of wheat by delivery point over the ten-year period 1962 to 1971. Totals for the study area and for the province are also shown.

The lowest percentage recorded in the study area was 9.6 percent at Smart in 1971. This, however, was higher than the provincial low of 8.4 for that year. The highest level reached was 18.0 percent in 1962 at Beulah. This was below the provincial high of 19.2 percent in 1963 and 1965. In terms of annual averages the highest record 15.6 percent occurred at Minota in 1968 and the lowest occurred at Alexander and Oak Lake at 11.7 percent. Protein content varies considerably from year to year and from delivery point to delivery point.

TABLE 2.7. PROTEIN CONTENT OF HARD RED SPRING WHEAT, BY DELIVERY POINT, 1962 TO 1971

Delivery Point	1962			1963			1964			1965			1966			1967			1968			1969			1970				
	Average	Range	Average	Average	Range	Average	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average										
<i>Too Small to Classify</i>																													
1 Maples	13.0	12.8-13.4																											
2 Brumlie		No information available		13.6	13.1-13.9	13.2	11.7-14.3	13.4	11.7-14.9	13.2	11.3-14.1	13.6	13.0-14.2	12.4	11.1-14.0														
3 Pettipiece																													
4 Pitlochry																													
5 Smart																													
6 Chumah																													
7 Floors																													
8 Ipswich	13.4	12.7-14.5	13.8	13.1-14.6	14.0	13.7-14.3	13.8	13.4-14.6	13.7	13.2-14.0	13.7	13.1-14.2	13.4	12.7-14.2	12.4	13.7-14.7													
9 Pope																													
10 Arrow River																													
<i>Hamlets</i>																													
11 Bryd		No information available		14.8	14.0-15.7	13.9	13.5-14.7	14.2	14.0-15.7	13.3	12.7-13.7	14.2	13.1-15.3	13.0	11.8-15.5														
12 Lavinia	13.1	12.7-13.7																											
13 Kelloe																													
14 Kammay																													
15 Glossop	12.9	11.4-15.1																											
16 Moline																													
17 McConnell																													
18 Oakner																													
19 Bradwardine																													
20 Harding																													
21 Isabella	13.8	13.5-14.2																											
22 Beulah	15.1	12.9-18.0																											
23 Forrest	13.0	11.7-13.8	15.6	15.1-16.1	14.3	13.1-15.1	13.6	12.6-14.3	12.8	12.4-13.2	13.5	13.4-13.6	13.4	12.2-14.2	13.9	13.0-15.2	12.7	11.6-13.6	12.7	11.6-14.5	13.9	12.3-15.1							
24 Griswold	14.2	12.8-15.9	14.6	13.5-15.2	14.9	13.9-15.9	12.6	12.0-13.0	12.6	11.2-14.5	14.2	13.5-15.2	14.2	13.3-15.1															
<i>Villages</i>																													
25 Lenore	14.8	14.4-15.2	15.2	14.3-15.9	15.2	14.3-15.9	13.7	12.9-14.7	14.2	13.7-15.0	14.1	13.6-15.0	13.4	13.0-13.6	13.4	11.9-14.3	13.5	13.2-13.9	13.8	12.9-14.9									
26 Solsgirth	14.6	12.7-15.4	15.1	14.6-15.9	13.8	12.9-14.9	13.7	13.0-14.1	13.6	13.0-14.1	13.8	12.4-15.7	15.2	13.4-16.3	14.1	13.3-14.4	14.0	12.9-14.8	13.6	12.5-14.6									
27 Crandall	13.5	12.8-14.4	14.0	14.0-14.0	14.1	13.6-14.4	14.1	13.5-13.5	13.2	12.2-14.6	13.2	12.5-13.5	13.2	12.1-13.7	13.4	13.0-13.8	14.1	13.0-15.8	14.1	13.0-15.8	12.7	11.0-14.9							
28 Baswood																													
29 Decker	14.5	14.1-15.2																											
30 Cardale	13.4	12.2-15.2																											
31 Alexander	11.7	10.3-13.6	15.1	15.0-15.2	14.1	13.6-14.7	13.2	12.8-13.7	14.1	13.1-15.4	13.6	13.0-14.3	12.7	11.9-14.1	13.8	12.2-14.8	13.9	13.0-15.1	12.8	12.1-14.0									
32 Kenton	13.5	12.9-14.0																											
<i>Towns</i>																													
33 Oak River																													
34 Newdale	13.4	12.9-14.7	14.2	12.9-14.3	12.8	10.9-13.9	13.2	12.0-14.0	14.0	13.9-14.0	12.9	12.5-13.6	15.6	15.4-15.8															
35 Minota	13.9	12.3-14.7	14.8	14.2-15.9	14.1	13.3-15.1	13.1	12.1-13.6	13.1	12.7-14.0	13.1	11.9-13.7	14.2	13.9-14.5	14.5	13.8-15.4	12.7	12.4-13.2	12.6	12.0-13.3	13.1	12.3-14.1							
36 Rapid City	12.2	11.5-13.2	14.0	14.0-14.4	14.0	13.4-14.5	13.5	12.6-14.2	12.9	12.0-13.8	13.3	12.7-13.8	13.8	13.1-14.3	13.0	11.2-14.2	13.4	12.2-14.6	13.7	13.5-14.2									
37 Strathclair	13.9	13.0-15.8	14.2	14.0-14.4	14.0	13.2-14.6	13.5	12.6-14.2	12.9	12.0-13.8	13.3	12.7-13.8	13.8	13.1-14.3	11.7	10.8-12.3	14.4	13.2-16.2	12.7	11.6-14.1									
38 Oak Lake																													
<i>Greater Towns</i>																													
39 Rivers	13.8	13.5-14.4	15.2	14.2-15.7	14.7	14.1-15.4	12.9	12.5-13.8	13.4	12.6-14.2	14.5	13.9-15.5	13.2	14.6-15.5	13.2	11.8-15.1	14.1	13.3-14.7											
40 Hamiota	12.6	10.2-14.6																											
41 Birtle	14.2	13.6-15.3	14.0	13.1-15.0	14.0	13.2-14.6	14.1	13.6-14.8	13.3	13.0-13.7	13.7	13.2-13.9	15.0	14.6-15.5	13.2	11.4-14.7	14.0	12.0-15.9	13.9	13.3-14.3	13.2	10.6-15.0							
42 Shoal Lake																													
43 Virden	12.8	11.3-15.0	14.0	13.2-14.6	13.5	12.6-14.2	12.9	12.0-13.8	13.3	12.7-13.8	13.8	13.1-14.3	13.0	11.2-14.2															
Study Area Total <sup>1</sup>	13.5	10.2-18.0	14.5	12.9-16.1	14.1	10.9-15.9	13.3	10.2-15.6	13.5	11.2-15.6	13.7	10.7-16.5	13.6	11.1-16.3	13.8	11.6-15.9	13.4	12.0-14.6	13.7	12.2-13.8									
Provincial Total	13.2	9.7-18.0	14.1	8.5-19.2	14.0	10.3-17.5	13.2	9.4-19.2	13.0	9.4-16.6	12.9	9.1-18.5	13.4	9.3-17.5	13.5	9.5-17.1	13.3	9.7-17.3	12.8	8.4-15.5									

A blank space means either that no information was available or that data which were available were based on less than three samples of wheat.

<sup>1</sup> Average weighted by number of samples.

Source: Canadian Grain Commission.

### Prairie Farm Assistance Act Payments 1939-1971

The map in Figure 2.3 shows a rough outline of the land tributary to each delivery point in the study area and the number of times during the past 33 years P.F.A.A. payments were made to grain farmers in each township because of crop failure. A value of ten, for example, does not mean that all farmers in that township received payments in 10 years out of 33 but that some farmers did. Thus, the map gives an indication of crop failure frequency in the hinterlands of the study area.

No payments were made in a number of townships in the study area. These areas are centred around the communities of Strathclair, Glossop, Newdale, Basswood, Brumlie, Oak River, Floors and Rapid City in the eastern half, and Hamiota and Chumah in the centre of the study area. Considerable variation exists throughout the region, even between adjacent townships. The maximum number of times payments were made to producers was 18 times south of the community of Oak Lake.

# PRAIRIE FARM ASSISTANCE ACT PAYMENTS 1939 - 1971

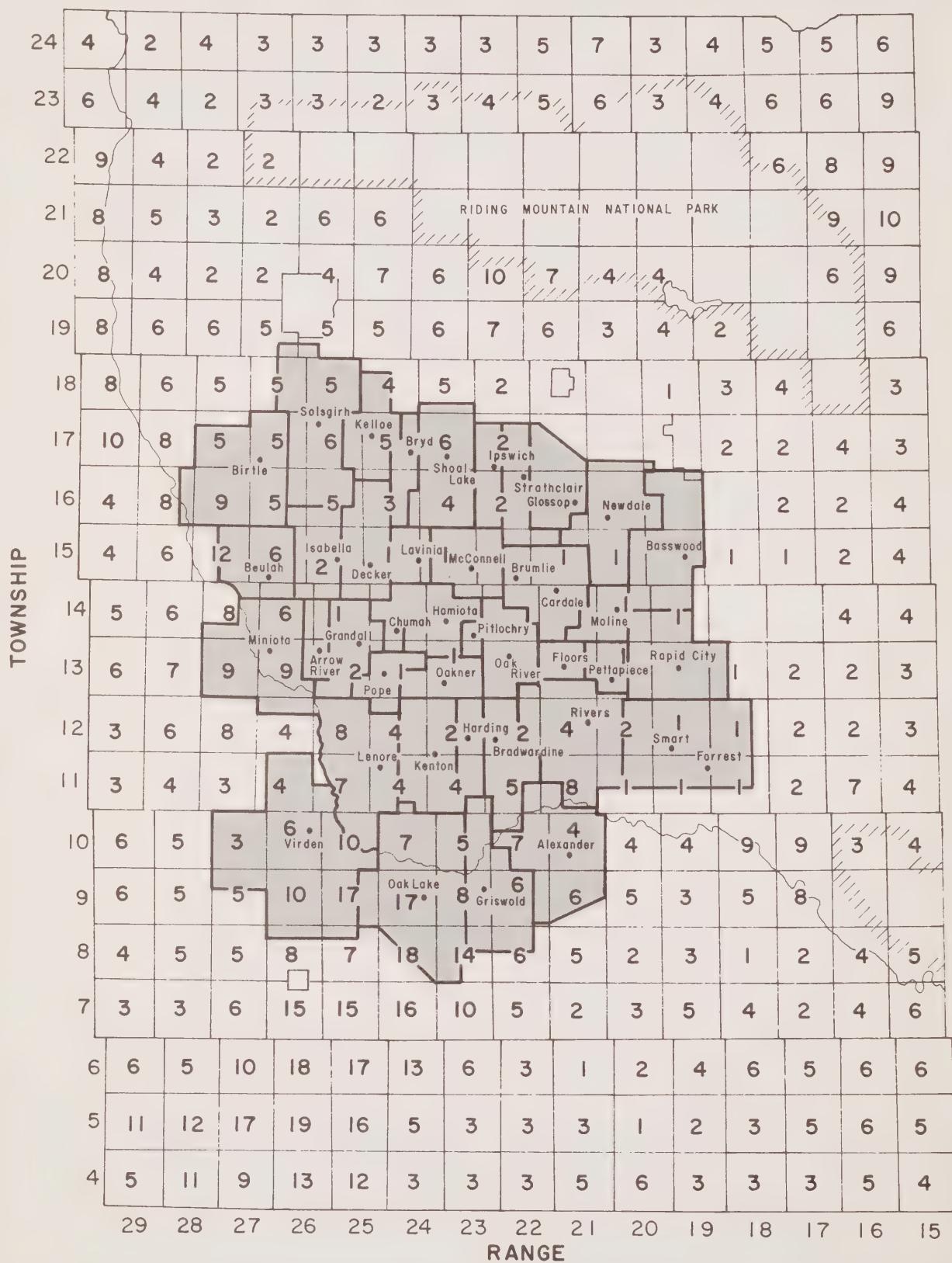


FIGURE 2.3

## Farm Size

The distribution of grain farm sizes in the Virden study area is shown in Table 2.8. Class sizes are arranged in intervals of 159 acres so that 160, or one of its multiples falls at the midpoint of each size group. More detailed statistics of farm sizes, grouped by delivery point, are given in Table 2.9 for crop years 1962-63 and 1969-70.

The number of farms in this context is the number of grain delivery permits, and farm sizes are derived from the acreages recorded in each permit book. To the extent that individual farm operational units are, in some instances, associated with more than one delivery permit, farm numbers are overstated while farm sizes are understated. With this in mind, the total number of farms declined by 439 from 2,888 to 2,449 or 15.2 percent. In 1962-63 the largest number of farms (30.8 percent) were in the 241-400 acre size group. This was also true in 1969-70 when 23.9 percent of the farms were in this size group. The mode, or that size of farm occurring most frequently in the study area was 320 acres in both years. The greatest concentration of farms is in the smaller size groups rather than in the larger for both years, resulting in a skewed distribution. This is pointed out in Figure 2.4 and Table 2.8.

The mean farm size for the study area (Table 2.9) increased from 509 acres to 590 acres between 1962-63 and 1969-70. The mean increased at every delivery point except Chumah, where it declined by 26 acres.

The median is defined as the middle farm size after all the farm sizes have been arranged in order of magnitude. Since the median in the study area in both years was 480 acres, about one half the total number of farms had less than 480 acres and the remaining half of the farms had more than 480 acres. Of course, there were some farms with exactly 480 acres.

TABLE 2.8. DISTRIBUTION OF FARM SIZES IN THE STUDY AREA, CROP YEARS 1962-63 AND 1969-70

Size Group (acres)	1962-63		1969-70	
	Number of Farms	Percent of Total	Number of Farms	Percent of Total
1— 240	341	11.8	255	10.4
241— 400	889	30.8	585	23.9
401— 560	643	22.3	508	20.8
561— 720	532	18.4	471	19.3
721— 880	231	8.0	255	10.4
881—1,040	125	4.3	154	6.3
1,041—1,200	58	2.0	82	3.4
1,201—1,360	29	1.0	57	2.3
1,361—1,520	15	.5	31	1.3
1,521—1,680	9	.3	17	.7
1,681—1,840	5	.2	13	.5
1,841—2,000	7	.3	8	.3
2,001—2,160	0	.0	5	.2
2,161—2,320	2	.1	1	.0
2,321—2,480	0	.0	1	.0
2,481—2,640	0	.0	1	.0
2,641—2,800	1	.0	0	.0
2,801—and over	1	.0	5	.2
Study Area Total	2,888	100.0	2,449	100.0

Source: Canadian Wheat Board.

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70

Delivery Point	1962-63	1969-70
<i>Too Small to Classify</i>		
1 Maples		
Number of farms	56	Closed
		— acres —
Mean	642	
Maximum	2,180	
Minimum	160	
Median	566	
Modal Group (Size)	241-400(320)	
<i>3 Pettapiece</i>		
Number of farms	19	18
		— acres —
Mean	548	631
Maximum	1,250	1,600
Minimum	160	160
Median	480	480
Modal Group (Size)	401-560(480)	401-560(480)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(continued)

Delivery Point	1962-63	1969-70
<b>4 Pitlochry</b>		
Number of farms	21	21
	— acres —	
Mean	414	448
Maximum	640	800
Minimum	154	154
Median	480	480
Modal Group (Size)	241-400(320)	241-400(320) 561-720(640)
<b>6 Chumah</b>		
Number of farms	18	14
	— acres —	
Mean	465	439
Maximum	800	800
Minimum	302	160
Median	472	320
Modal Group (Size)	241-400(320) 401-560(480)	241-400(320)
<b>7 Floors</b>		
Number of farms	26	23
	— acres —	
Mean	524	617
Maximum	1,040	1,280
Minimum	240	320
Median	480	480
Modal Group (Size)	241-400(320)	401-560(480)
<b>8 Ipswich</b>		
Number of farms	64	46
	— acres —	
Mean	475	497
Maximum	960	1,280
Minimum	160	80
Median	480	480
Modal Group (Size)	241-400(320)	241-400(320)
<b>9 Pope</b>		
Number of farms	22	32
	— acres —	
Mean	531	626
Maximum	1,120	1,440
Minimum	315	154
Median	480	640
Modal Group (Size)	241-400(320)	561-720(640)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(continued)

Delivery Point	1962-63	1969-70
10 Arrow River		
Number of farms	31	32
	— acres —	
Mean	403	549
Maximum	960	1,278
Minimum	100	150
Median	320	480
Modal Group (Size)	241-400(320)	241-400(320)
<i>Hamlets</i>		
11 Bryd		
Number of farms	24	31
	— acres —	
Mean	593	614
Maximum	1,280	1,600
Minimum	160	160
Median	480	480
Modal Group (Size)	241-400(320)	241-400(320)
12 Lavinia		
Number of farms	41	38
	— acres —	
Mean	522	554
Maximum	1,120	1,120
Minimum	160	160
Median	480	480
Modal Group (Size)	401-560(480)	401-560(480)
13 Kelloe		
Number of farms	63	48
	— acres —	
Mean	499	525
Maximum	1,280	1,600
Minimum	160	160
Median	480	462
Modal Group (Size)	241-400(320)	241-400(320)
14 Kemnay		
Number of farms	18	Closed
	— acres —	
Mean	454	
Maximum	1,048	
Minimum	26	
Median	320	
Modal Group (Size)	241-400(320)	

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(continued)

Delivery Point	1962-63	1969-70
15 Glossop		
Number of farms	51	50
	— acres —	
Mean	514	609
Maximum	1,120	1,440
Minimum	160	160
Median	480	592
Modal Group (Size)	241-400(320)	401-560(480)
16 Moline		
Number of farms	49	49
	— acres —	
Mean	458	513
Maximum	1,040	1,440
Minimum	160	160
Median	320	480
Modal Group (Size)	241-400(320)	241-400(320)
17 McConnell		
Number of farms	74	56
	— acres —	
Mean	449	534
Maximum	1,120	1,120
Minimum	160	160
Median	320	480
Modal Group (Size)	241-400(320)	241-400(320)
18 Oakner		
Number of farms	24	26
	— acres —	
Mean	487	635
Maximum	960	1,417
Minimum	320	320
Median	480	634
Modal Group (Size)	241-400(320)	561-720(640)
19 Bradwardine		
Number of farms	64	48
	— acres —	
Mean	526	613
Maximum	1,020	1,360
Minimum	80	37
Median	480	640
Modal Group (Size)	241-400(320)	561-720(640)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(continued)

Delivery Point	1962-63	1969-70
<b>20 Hardin</b>		
Number of farms	44	30
	— acres —	
Mean	372	467
Maximum	800	1,920
Minimum	160	160
Median	320	320
Modal Group (Size)	241-400(320)	241-400(320)
<b>21 Isabella</b>		
Number of farms	81	67
	— acres —	
Mean	483	523
Maximum	1,280	1,280
Minimum	160	8
Median	480	480
Modal Group (Size)	241-400(320)	561-720(640)
<b>22 Beulah</b>		
Number of farms	85	66
	— acres —	
Mean	516	597
Maximum	1,440	1,365
Minimum	20	80
Median	480	640
Modal Group (Size)	561-720(640)	241-400(320)
<b>23 Forrest - Smart<sup>1</sup></b>		
Number of farms	116	98
	— acres —	
Mean	457	493
Maximum	1,920	2,180
Minimum	80	90
Median	466	460
Modal Group (Size)	241-400(320)	241-400(320)
<b>24 Griswold</b>		
Number of farms	113	90
	— acres —	
Mean	455	584
Maximum	1,680	1,440
Minimum	40	80
Median	345	480
Modal Group (Size)	241-400(320)	401-560(480)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(continued)

Delivery Point	1962-63	1969-70
<i>Villages</i>		
25 Lenore		
Number of farms	104	85
Mean	613	— acres —
Maximum	2,000	716
Minimum	160	2,900
Median	640	160
Modal Group (Size)	561-720(640)	640
		401-560(480)
26 Solsgirth		
Number of farms	104	107
Mean	505	— acres —
Maximum	1,280	562
Minimum	150	1,440
Median	480	160
Modal Group (Size)	241-400(320)	480
		241-400(320)
27 Crandall		
Number of farms	70	48
Mean	519	— acres —
Maximum	1,280	657
Minimum	160	1,440
Median	480	320
Modal Group (Size)	241-400(320)	640
		401-560(480)
		561-720(640)
28 Basswood		
Number of farms	109	96
Mean	437	— acres —
Maximum	1,200	509
Minimum	40	1,600
Median	350	135
Modal Group (Size)	241-400(320)	480
		241-400(320)
29 Decker		
Number of farms	59	50
Mean	574	— acres —
Maximum	1,600	634
Minimum	160	2,480
Median	640	160
Modal Group (Size)	561-720(640)	640
		561-720(640)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(continued)

Delivery Point	1962-63	1969-70
30 Cardale - 2 Brumlie <sup>1</sup>		
Number of farms	84	58
	— acres —	
Mean	544	684
Maximum	1,280	1,920
Minimum	160	160
Median	480	640
Modal Group (Size)	241-400(320) 401-560(480)	561-720(640)
31 Alexander		
Number of farms	100	77
	— acres —	
Mean	522	620
Maximum	1,920	1,760
Minimum	23	80
Median	480	480
Modal Group (Size)	241-400(320)	241-400(320)
32 Kenton		
Number of farms	93	86
	— acres —	
Mean	441	513
Maximum	1,120	1,354
Minimum	160	100
Median	380	480
Modal Group (Size)	241-400(320)	401-560(480)
<i>Towns</i>		
33 Oak River		
Number of farms	75	66
	— acres —	
Mean	554	580
Maximum	1,598	1,596
Minimum	160	97
Median	480	480
Modal Group (Size)	241-400(320)	241-400(320) 401-560(480)
34 Newdale		
Number of farms	101	88
	— acres —	
Mean	522	565
Maximum	1,280	1,600
Minimum	50	160
Median	480	515
Modal Group (Size)	401-560(480)	241-400(320)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
 (continued)

Delivery Point	1962-63	1969-70
<b>35 Miniota</b>		
Number of farms	84	84
	— acres —	
Mean	553	644
Maximum	1,280	1,870
Minimum	60	160
Median	480	620
Modal Group (Size)	401-560(480)	401-560(480)
<b>36 Rapid City</b>		
Number of farms	135	104
	— acres —	
Mean	435	495
Maximum	1,550	1,275
Minimum	100	100
Median	320	480
Modal Group (Size)	241-400(320)	561-720(640)
<b>37 Strathclair</b>		
Number of farms	72	63
	— acres —	
Mean	425	537
Maximum	1,200	2,110
Minimum	75	75
Median	320	480
Modal Group (Size)	241-400(320)	241-400(320) 401-560(480)
<b>38 Oak Lake</b>		
Number of farms	135	99
	— acres —	
Mean	653	682
Maximum	2,683	2,880
Minimum	160	40
Median	560	560
Modal Group (Size)	241-400(320)	241-400(320)
<i>Greater Towns</i>		
<b>39 Rivers</b>		
Number of farms	111	108
	— acres —	
Mean	537	628
Maximum	4,790	5,760
Minimum	30	52
Median	473	480
Modal Group (Size)	241-400(320)	241-400(320) 561-720(640)

(continued)

TABLE 2.9. AVERAGE ACREAGE OF FARMS IN THE STUDY AREA, 1962-63 AND 1969-70  
(concluded)

Delivery Point	1962-63	1969-70
40 Hamiota		
Number of farms	92	76
	— acres —	
Mean	428	526
Maximum	1,080	1,360
Minimum	9	66
Median	476	480
Modal Group (Size)	241-400(320) 401-560(480)	401-560(480)
41 Birtle		
Number of farms	104	88
	— acres —	
Mean	583	653
Maximum	2,320	1,920
Minimum	80	18
Median	480	640
Modal Group (Size)	241-400(320)	241-400(320)
42 Shoal Lake		
Number of farms	76	63
	— acres —	
Mean	551	625
Maximum	1,952	2,560
Minimum	10	110
Median	480	480
Modal Group (Size)	241-400(320)	241-400(320)
43 Virden		
Number of farms	76	120
	— acres —	
Mean	529	778
Maximum	1,690	4,143
Minimum	160	160
Median	480	640
Modal Group (Size)	241-400(320)	241-400(320) 561-720(640)
Study Area Total		
Number of farms	2,888	2,449
	— acres —	
Mean	509	590
Standard Deviation	290	371
Maximum	4,790	5,760
Minimum	9	8
Median	480	480
Modul Group (Size)	241-400(320)	241-400(320)

<sup>1</sup>See footnote 1 Table 2.5

# DISTRIBUTION OF FARM SIZES IN THE STUDY AREA, CROP YEARS 1962-63 AND 1969-70

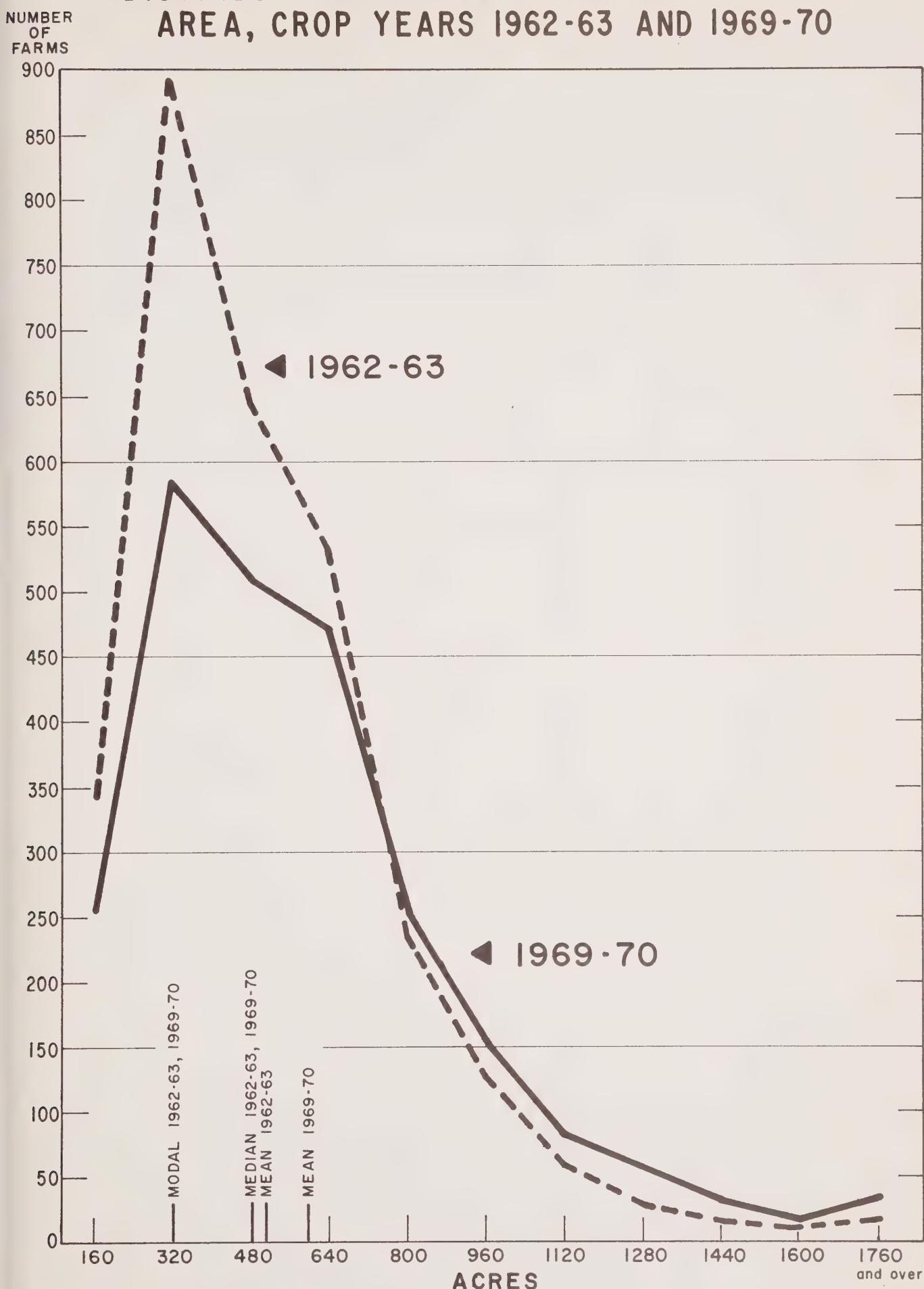


FIGURE 2.4

## Land Tenure

In the Virden region the general trend between 1962-63 and 1969-70 has been for a greater percentage of land being owned rather than being rented by farm operators (Table 2.10). In 1962-63, 78.7 percent of the land was owned and 21.3 percent was rented. In 1969-70, 82.2 percent of the land was owned and 17.8 percent rented. Size of community appears to have little or no effect upon the distribution of land tenure.

TABLE 2.10. LAND TENURE OF FARMS BY DELIVERY POINT, 1962-63 AND 1969-70

Delivery Point	1962-63		1969-70	
	Owned	Rented	Owned	Rented
— percent —				
<i>Too Small to Classify</i>				
1 Maples	87.1	12.9	Closed	
2 Brumlie	Storage only		see Cardale <sup>1</sup>	
3 Pettapiece	77.2	22.8	93.0	7.0
4 Pitlochry	65.0	35.0	77.9	22.1
5 Smart	Closed		see Forrest <sup>1</sup>	
6 Chumah	92.3	7.7	89.7	10.3
7 Floors	72.2	27.8	88.3	11.7
8 Ipswich	87.9	12.1	85.3	14.7
9 Pope	55.0	45.0	72.9	27.1
10 Arrow River	88.5	11.5	90.9	9.1
<i>Hamlets</i>				
11 Bryd	73.0	27.0	76.9	23.1
12 Levinia	74.2	25.8	75.9	24.1
13 Kelloe	67.7	32.3	66.4	33.6
14 Kemnay	71.0	29.0	Storage only	
15 Glossop	77.8	22.2	79.4	20.6
16 Moline	83.6	16.4	80.3	19.7
17 McConnell	81.4	18.6	87.2	12.8
18 Oakner	81.6	18.4	84.3	15.7
19 Bradwardine	70.9	29.1	79.7	20.3
20 Harding	85.3	14.7	79.4	20.6
21 Isabella	77.1	22.9	87.2	12.8
22 Beulah	71.0	29.0	76.6	23.4
23 Forrest	77.2	22.8	78.3	21.7
24 Griswold	73.7	26.3	83.7	16.3
<i>Villages</i>				
25 Lenore	83.0	17.0	79.8	20.2
26 Solsgirth	84.0	16.0	87.2	12.8
27 Crandall	79.8	20.2	78.9	21.1
28 Basswood	72.2	27.8	84.0	16.0
29 Decker	81.4	18.6	86.8	13.2
30 Cardale	63.4	36.6	74.2	25.8
31 Alexander	79.7	20.3	83.5	16.5
32 Kenton	80.7	19.3	85.7	14.3

(continued)

TABLE 2.10. LAND TENURE OF FARMS BY DELIVERY POINT, 1962-63 AND 1969-70 (concluded)

Delivery Point	1962-63		1969-70	
	Owned	Rented	Owned	Rented
— percent —				
<i>Towns</i>				
33 Oak River	76.9	23.1	80.2	19.8
34 Newdale	80.5	19.5	84.4	15.6
35 Miniota	80.6	19.4	85.2	14.8
36 Rapid City	82.0	18.0	84.6	15.4
37 Strathclair	65.6	34.4	80.1	19.9
38 Oak Lake	84.3	15.7	79.3	20.7
<i>Greater Towns</i>				
39 Rivers	86.8	13.2	86.9	13.1
40 Hamiota	79.5	20.5	84.1	15.9
41 Birtle	81.7	18.3	86.8	13.2
42 Shoal Lake	76.3	23.7	85.1	14.9
43 Virden	81.1	18.9	78.0	22.0
Study Area Total	78.7	21.3	82.2	17.8

<sup>1</sup>See footnote 1 Table 2.5.

Source: Canadian Wheat Board.

## PART III

### GRAIN MARKETING AND HANDLING CHARACTERISTICS

#### Producers' Choice of Alternate Delivery Points

In 1970-71 each producer was given the right to nominate a second delivery point. Based on this information it is possible to speculate on the reasoning underlying the choice of an alternate point should the individual producer's primary delivery point be closed or otherwise unaccessible.

Table 3.1 contains an analysis of the choices made by 2,390 producers in the study area. Sixteen percent of them did not exercise their option of naming a second point, although more producers delivering to elevators in small communities chose an alternate than farmers hauling their grain to larger centres. For example, 25 percent of all farmers delivering to greater towns did not select an alternate while only 1.7 percent of all farmers delivering to the "too small to classify" communities and 11.3 percent of all farmers delivering to hamlets did not choose an alternate.

The majority of the producers, 78.4 percent, chose the next nearest point as their alternate. The classification group of communities "too small to classify" had the highest percentage of farmers choosing the next nearest point, 85.3 percent, and towns had the lowest, 68.5 percent.

Many producers chose a larger centre for their alternate despite the fact they would bypass one or more other elevator points en route to the larger community. On the average, over 30 percent of those farmers normally hauling to a small elevator point chose a large point as their alternate. Some producers delivering to a greater town, particularly Rivers, chose another larger centre (Brandon) as their second point. Besides being a city, Brandon is also in two loading blocks.

Almost half of the producers in the study area who chose an alternate, chose one in a different loading block, which might offer more flexible marketing opportunities.

No attempt was made to analyze the influence of other factors such as preference for a specific grain handling company, best road access, or availability of particular shopping or service facilities. It is recognized, however, that these have a bearing on producers' choice of alternate delivery points.

TABLE 3.1. PRODUCERS' CHOICE OF ALTERNATE DELIVERY POINTS, 1970-71

Delivery Point	Number of Farmers	Option not Exercised	Next Nearest Point	Loading Block			Large Centre <sup>1</sup>				
				Different	Same	Double					
— percent of farmers choosing alternate —											
<i>Too Small to Classify</i>											
1 Maples	Closed										
2 Brumlie	Closed										
3 Pettapiece	18	0.0	50.0	83.3	16.7	0.0	50.0				
4 Pitlochry	19	5.3	77.8	22.2	77.8	0.0	66.7				
5 Smart	Closed										
6 Chumah	13	0.0	92.3	7.7	92.3	0.0	46.2				
7 Floors	24	0.0	95.8	58.3	41.7	0.0	54.2				
8 Ipswich	43	4.7	100.0	9.8	90.2	0.0	12.2				
9 Pope	31	0.0	74.2	54.8	45.2	0.0	12.9				
10 Arrow River	32	0.0	90.6	25.0	75.0	0.0	0.0				
Total	180	1.7	85.3	35.6	64.4	0.0	27.7				
<i>Hamlets</i>											
11 Bryd	31	48.4	100.0	12.5	87.5	0.0	62.5				
12 Lavinia	37	0.0	91.9	83.8	16.2	0.0	51.4				
13 Kelloe	50	14.0	62.8	37.2	62.8	0.0	18.6				
14 Kemnay	Closed										
15 Glossop	49	0.0	83.7	14.3	85.7	0.0	0.0				
16 Moline	48	2.1	68.1	95.7	4.3	0.0	27.6				
17 McConnell	55	1.8	79.6	85.2	14.8	0.0	40.7				
18 Oakner	26	0.0	69.2	76.9	23.1	0.0	42.3				
19 Bradwardine	46	0.0	52.2	47.8	28.3	23.9	69.6				
20 Harding	29	0.0	69.0	31.0	65.5	3.5	27.6				
21 Harding	65	1.5	95.3	89.1	10.9	0.0	6.2				
22 Isabella	63	4.8	100.0	85.0	15.0	0.0	11.7				
23 Beulah	92	2.2	83.3	8.9	7.8	83.3	92.2				
24 Forrest	89	52.8	45.2	19.0	40.5	40.5	47.6				
Total	680	11.3	77.9	53.4	29.4	17.2	39.3				
<i>Villages</i>											
25 Lenore	86	0.0	97.7	18.6	25.6	55.8	55.8				
26 Solsgirth	100	25.0	80.0	61.3	38.7	0.0	12.0				
27 Crandall	50	34.0	63.6	45.5	54.5	0.0	15.2				
28 Basswood	97	2.1	95.8	14.7	83.2	2.1	66.3				
29 Decker	49	2.0	56.2	87.5	12.5	0.0	6.2				
30 Cardale	56	0.0	69.6	85.6	7.2	7.2	23.2				
31 Alexander	74	35.1	100.0	0.0	4.2	95.8	95.8				
32 Kenton	84	21.4	86.4	68.2	27.3	4.5	10.6				
Total	596	14.9	84.2	44.6	35.1	20.3	38.3				

(continued)

TABLE 3.1. PRODUCERS' CHOICE OF ALTERNATE DELIVERY POINTS, 1970-71 (concluded)

Delivery Point	Number of Farmers	Option not Exercised	Next Nearest Point	Loading Block			Large Centre <sup>1</sup>				
				Different	Same	Double					
— percent of farmers choosing alternate —											
<i>Towns</i>											
33 Oak River	62	0.0	71.0	69.4	27.4	3.2	32.2				
34 Newdale	87	36.8	83.6	60.0	36.4	3.6	14.5				
35 Minniota	80	6.3	60.0	58.6	38.7	2.7	2.7				
36 Rapid City	101	2.0	47.5	18.2	65.6	16.2	52.5				
37 Strathclair	66	0.0	89.4	28.8	71.2	0.0	1.5				
38 Oak Lake	95	65.3	78.8	30.3	36.4	33.3	30.3				
Total	491	20.6	68.5	42.8	48.7	8.5	23.8				
<i>Greater Towns</i>											
39 Rivers	111	39.1	35.8	43.3	0.0	56.7	56.7				
40 Hamiota	78	1.3	70.1	81.8	18.2	0.0	0.0				
41 Birtle	84	3.6	97.5	32.1	67.9	0.0	0.0				
42 Shoal Lake	58	74.1	93.3	46.7	53.3	0.0	0.0				
43 Virden	113	18.6	97.8	13.0	87.0	0.0	0.0				
Total	443	25.0	78.6	41.3	47.3	11.4	11.4				
Study Area Total	2,390	16.0	78.4	48.9	37.2	13.9	30.4				

<sup>1</sup> Rivers, Hamiota, Birtle, Shoal Lake, Virden, Brandon, Minnedosa, Souris.

Source: Canadian Wheat Board.

### Delivery Permit Books Issued

The number of permit books issued in the Virden study area decreased by 560 permits or by 19.4 percent between 1962-63 and 1971-72 as shown in Table 3.2. Nearly all delivery points in the study area experienced a decrease in the number of permits issued. Virden was the only point that showed an increase of more than ten permits. There was an increase of 38 permits over the time period.

TABLE 3.2. DELIVERY PERMIT BOOKS ISSUED BY DELIVERY POINT, 1962-63 TO 1971-72

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72 <sup>1</sup>
<i>Too Small to Classify</i>										
1 Maples	56	51	Closed	*	*	*	*	*	*	Closed
2 Brumlie <sup>2</sup>	*	*	*	22	22	21	21	18	18	16
3 Pettapiece	19	22	23	23	21	21	20	21	19	19
4 Pittochry	21	23	Closed							
5 Smart <sup>2</sup>	Closed	18	17	16	16	12	13	14	13	14
6 Chumah	26	28	28	28	25	25	23	23	24	24
7 Floors	64	67	62	61	58	57	50	46	43	41
8 Ipswich	22	23	24	24	24	26	27	32	31	26
9 Pope	31	28	30	28	28	28	26	32	32	27
10 Arrow River										
<i>Hamlets</i>										
11 Bryd	24	27	29	27	24	30	31	31	31	33
12 Lavinia	41	42	41	39	40	38	38	37	37	33
13 Kelloe	63	55	55	48	46	45	45	48	50	49
14 Kemnay	18	18	16	17	11	13	*	*	*	Closed
15 Glossop	51	50	49	49	45	44	46	50	49	44
16 Moline	49	48	49	48	45	45	46	49	48	49
17 McConnell	74	71	69	64	53	53	54	56	55	55
18 Oakner	24	24	23	23	23	23	23	26	26	27
19 Bradwardine	64	57	56	55	56	50	49	48	46	64
20 Harding	44	42	43	42	35	35	29	30	29	Closed
21 Isabella	81	78	78	72	70	68	69	67	65	63
22 Beulah	85	79	76	70	68	66	67	66	63	66
23 Forrest	116	116	100	99	94	93	97	98	92	89
24 Griswold	113	112	109	108	105	105	105	90	89	88

(continued)

TABLE 3.2. DELIVERY PERMIT BOOKS ISSUED BY DELIVERY POINT, 1962-63 TO 1971-72 (concluded)

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72 <sup>1</sup>
<i>Villages</i>										
25 Lenore	104	105	103	99	97	94	92	85	86	86
26 Solsgirth	104	115	115	120	119	123	114	107	100	102
27 Crandall	70	67	64	64	62	59	58	48	50	48
28 Basswood	109	109	103	101	100	97	97	96	97	96
29 Decker	59	57	56	50	46	46	48	50	49	46
30 Cardale	84	75	72	64	66	64	58	58	56	56
31 Alexander	100	99	96	92	90	87	91	77	74	75
32 Kenton	93	91	87	84	85	85	86	86	84	94
<i>Towns</i>										
33 Oak River	75	75	71	71	67	67	67	66	62	62
34 Newdale	101	101	102	101	96	92	90	88	87	83
35 Minota	84	82	85	85	84	85	82	84	80	82
36 Rapid City	135	127	122	121	114	109	109	104	101	97
37 Strathclair	72	72	69	71	71	68	66	63	66	63
38 Oak Lake	135	133	128	122	114	105	107	99	95	93
<i>Greater Towns</i>										
39 Rivers	111	111	113	115	110	102	103	108	110	102
40 Hamiota	92	96	96	92	90	93	88	76	78	75
41 Birtle	104	105	104	102	98	92	92	88	84	80
42 Shoal Lake	76	80	77	69	72	67	63	63	58	47
43 Virden	76	74	113	113	113	115	116	120	113	114
<b>Study Area Total</b>	<b>2,888</b>	<b>2,853</b>	<b>2,771</b>	<b>2,701</b>	<b>2,612</b>	<b>2,543</b>	<b>* 2,505</b>	<b>2,449</b>	<b>2,390</b>	<b>2,328</b>

<sup>1</sup>Figures for 1971-72 represent approximately 99 per cent of permits issued.<sup>2</sup>The Canadian Wheat Board designated Cardale-Brumlie and Forrest-Smart to be only two delivery points whereby producers who were issued permits at Cardale and Forrest were permitted to deliver their grain to Brumlie and Smart respectively. In practice, Brumlie was used for storage only through 1970-71 and then was closed and emptied. Smart received producer grain deliveries during the crop years 1964-65 to 1971-72 (Table 3.5) and beginning in 1972-73 delivery permits were again issued at Smart.

\* Storage only.

Source: Canadian Wheat Board.

## Canadian Wheat Board Initial Payments

Under the Canadian Wheat Board marketing system, producers receive an initial payment upon delivery of their grain to country elevators. Table 3.3 shows net initial payments based on prices set at the Lakehead less freight costs from delivery points and less country elevator handling charges.<sup>1</sup> Initial payment levels established each year by an order-in-council of the federal cabinet are subject to change from year to year.<sup>2</sup> Initial payments in 1969-70, for example, were substantially lower than in 1968-69.

Freight rate zones have been established following a general north-south orientation and increasing by one-cent-per-hundredweight steps as one moves west from the Lakehead. Figure 3.1 shows freight rate zones in an area of Manitoba including the study area. According to Figure 3.1 freight rates in the Virden region are either 17 or 18 cents per hundredweight.

Since net initial payments are, of course, slightly higher in a 17-cent freight rate zone than in an 18-cent zone, it follows that a farmer who is located on or near the boundary between those two zones will consider the price differential in choosing his delivery point. For example, a farmer delivering wheat to Moline receives \$1.34 per bushel (No. 1 Northern Wheat, 1970-71), 3/4 of a cent more than the \$1.33 1/4 per bushel paid at nearby Cardale. To the extent that differing prices influence each farmer's choice of a delivery point, the size and shape of delivery point hinterlands are correspondingly affected.

---

<sup>1</sup>In 1970-71, for instance, the handling charge was  $5\frac{3}{4}$  cents per bushel of wheat, durum or barley and  $4\frac{1}{2}$  cents per bushel of oats. This statutory charge is comprised of the country elevator elevation charge plus a portion of the terminal elevator handling charge.

<sup>2</sup>For a more detailed description of how the initial payment is arrived at, see J.W. Channon, "How Canadian Wheat is Handled", *Canadian Journal of Agricultural Economics*, Workshop Proceedings, 1969, p. 88.

TABLE 3.3. CANADIAN WHEAT BOARD NET INITIAL PAYMENTS TO PRODUCERS CROP YEARS 1968-69, 1969-70 AND 1970-71

Crop Year	Grain Freight Rates To Lakehead <sup>1</sup>	Wheat				Barley		
		No. 1 Northern & No. 1 C.W.A.D.		No. 2 Northern & No. 2 C.W.A.D.	No. 4 Northern & No. 4 C.W.A.D.	No. 2 C.W.	No. 1 Feed	No. 3 C.W. 6 Row
		cents/cwt.				— dollars per bushel —		
1968-69	17	1.54 1/4	1.50 1/4	1.39 1/4	.54 7/8	.49 7/8	.92 1/4	.83 1/4
	18	1.53 1/2	1.49 1/2	1.38 1/2	.54 5/8	.49 5/8	.91 3/4	.82 3/4
1969-70	17	1.34	1.30	1.17	.49 5/8	.44 5/8	.77	.67
	18	1.33 1/4	1.29 1/4	1.16 1/4	.49 3/8	.44 3/8	.76 1/2	.66 1/2
1970-71	17	1.34	1.30	1.17	.49 5/8	.44 5/8	.82	.72
	18	1.33 1/4	1.29 1/4	1.16 1/4	.49 3/8	.44 3/8	.81 1/2	.71 1/2

<sup>1</sup> Flaxseed and rapeseed 1 1/2 cents per hundred weight higher.

Source: Canadian Wheat Board.

# GRAIN FREIGHT RATES TO THUNDER BAY FOR THE VIRDEN REGION

Freight rate boundaries. — Rate in cents per 100 lbs 18

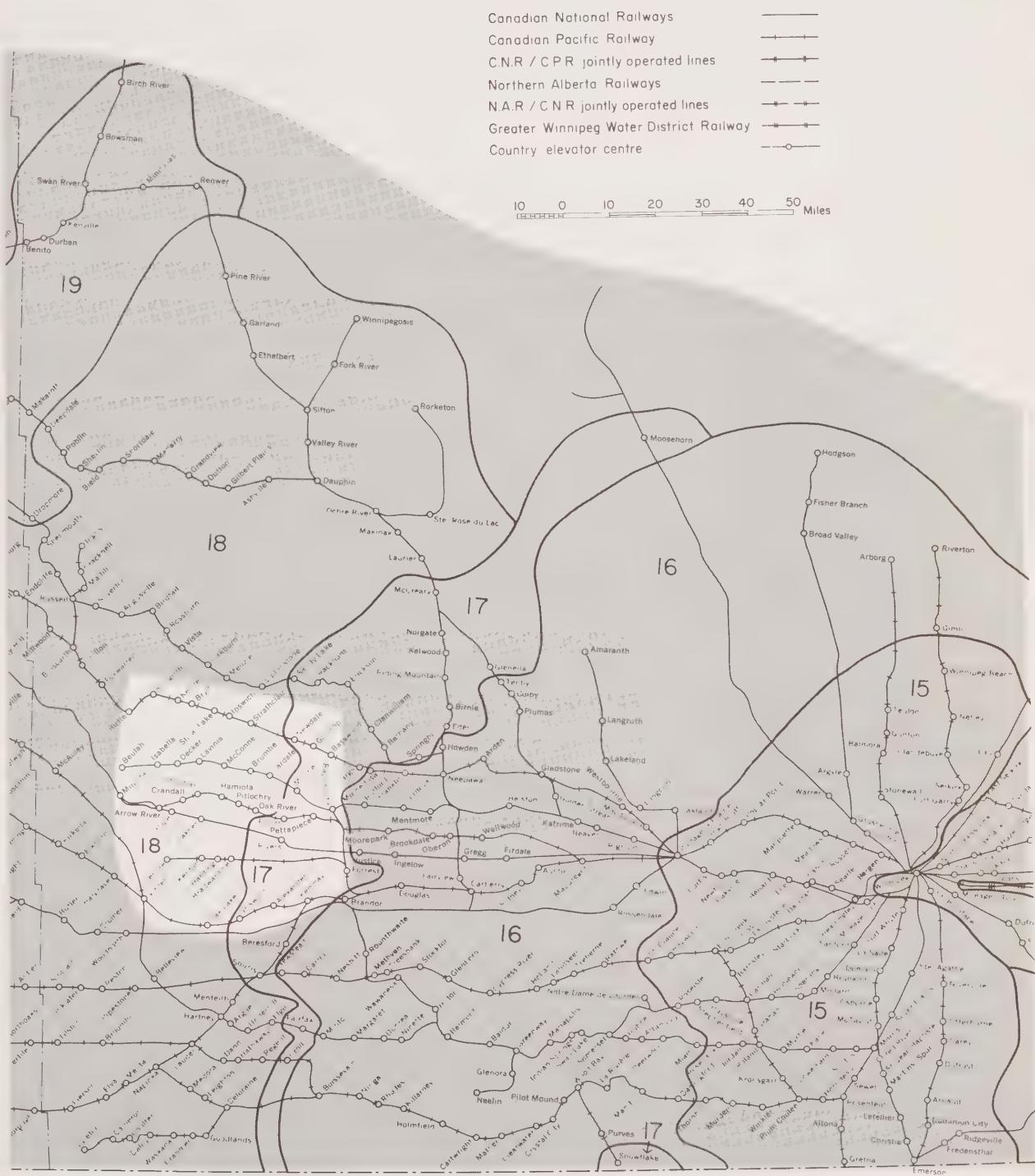


FIGURE 3.1

## Country Elevator Facilities

The number and storage capacity of grain elevators at any particular delivery point is a measure of the importance of that point as a grain collection and distribution centre<sup>1</sup>. Table 3.4 contains this information for the crop years 1962-63 and 1969-70. The number of grain companies represented at each point in 1962 and 1969 is also shown.

Most points had the same number of elevators in 1969-70 as in 1962-63 with the exception of Beulah, Forrest and Griswold which all lost an elevator. The delivery point of Maples closed completely with the elevator being moved to Virden and the Manitoba Pool Elevator "B" at Forrest was moved to Smart for an overall decrease of 2 elevators in the study area.

Seven delivery points increased storage capacity, four decreased and thirty-two remained the same for an overall increase in capacity of 318,000 bushels or an 8.1 percent increase.

Examination of the number of grain companies present at each delivery point reveals the fact that, in most instances, where two or more elevators exist, often two or more companies are present also. This is an indication of the degree of competition among elevator companies.

Table 3.5 presents data on ownership, age and capacity of country elevators and annexes in the study area. As of August 1, 1971 there were 71 elevators licensed in the study area. This was 5 less than in 1962. The storage capacity increased, in spite of the reduction in elevators, from 3,927,000 bushels in 1962 to 4,219,000 bushels in 1971. This is an increase of 292,000 bushels or 7.4 percent. The delivery point of Newdale had the greatest storage capacity with 5 elevators totalling 260,000 bushels.

The average age of elevator was 46 years and of annexes 26 years in 1971. The oldest licensed elevator was at Arrow River where the elevator was built in 1900. Frequently older elevators are converted into annexes; therefore, it will be noted that some annexes are older than the elevator. For example, at Griswold the annex was built in 1889 and the elevator was built in 1957.

---

<sup>1</sup> Bushel receipts should also be taken into account. See Table 3.6.

TABLE 3.4 NUMBER AND CAPACITY OF LICENSED COUNTRY ELEVATORS BY DELIVERY POINT,  
1962-63 AND 1969-70

Delivery Point	Number of Elevators		Storage Capacity		Number of Grain Companies	
	1962-63	1967-70	1692-63	1969-70	Aug. 1, 1962	Aug. 1, 1969
— '000 bushels —						
<i>Too Small to Classify</i>						
1 Maples	1	Closed	23	Closed	1	0
2 Brumlie	1	1	24	24	1	1
3 Pettapiece	1	1	36	36	1	1
4 Pitlochry	1	1	50	50	1	1
5 Smart	Closed	1	Closed	69	0	1
6 Chumah	1	1	48	48	1	1
7 Floors	1	1	40	40	1	1
8 Ipswich	2	2	141	141	2	1
9 Pope	1	1	53	53	1	1
10 Arrow River	1	1	51	51	1	1
<i>Hamlets</i>						
11 Bryd	1	1	72	72	1	1
12 Lavinia	2	2	93	93	2	1
13 Kelloe	2	2	55	55	1	1
14 Kemnay	1	1	34	34	1	1
15 Glossop	2	2	88	108	2	2
16 Moline	2	2	54	54	1	1
17 McConnell	2	2	102	102	1	1
18 Oakner	1	1	26	24	1	1
19 Bradwardine	1	1	58	58	1	1
20 Harding	1	1	29	29	1	1
21 Isabella	3	3	126	126	2	1
22 Beulah	2	1	55	74	1	1
23 Forrest	2	1	163	137	1	1
24 Griswold	3	2	153	153	1	1
<i>Villages</i>						
25 Lenore	1	1	82	82	1	1
26 Solsgirth	2	2	163	163	2	2
27 Crandall	1	1	53	53	1	1
28 Basswood	3	3	100	100	1	1
29 Decker	2	2	74	127	1	1
30 Cardale	3	3	172	172	1	1
31 Alexander	2	2	191	191	2	2
32 Kenton	3	3	82	134	1	1
<i>Towns</i>						
33 Oak River	3	3	170	170	2	2
34 Newdale	5	5	277	260	2	2
35 Minota	1	1	51	51	1	1
36 Rapid City	2	2	127	127	2	2
37 Strathclair	3	3	187	187	3	2
38 Oak Lake	2	2	106	106	1	1
<i>Greater Towns</i>						
39 Rivers	2	2	162	162	2	2
40 Hamiota	2	2	137	137	1	1
41 Birtle	1	1	72	123	1	1
42 Shoal Lake	2	2	120	120	2	1
43 Virden	1	3	28	150	1	2
<b>Study Area Total</b>	<b>76</b>	<b>74</b>	<b>3,928</b>	<b>4,246</b>	<b>7<sup>1</sup></b>	<b>7<sup>1</sup></b>

<sup>1</sup>Grain companies represented are:

Federal Grain Ltd.,  
Manitoba Pool Elevators  
National Grain Co., Ltd.,  
N.M. Paterson & Sons Ltd.

Pioneer Grain Co., Ltd.,  
Scottish Co-op Wholesale Society Ltd.,  
United Grain Growers Ltd.

TABLE 3.5. COUNTRY ELEVATORS, OWNER, AGE, AND CAPACITY, BY DELIVERY POINT, 1962-63 AND 1971-72

Delivery Point	Company	Year of Construction		Storage Capacity — 000's bu. —
		Elevator	Annex	
<i>Too Small to Classify</i>				
1 Maples	Manitoba Pool Elevators <sup>1</sup>	Not Available		23
2 Brumlie	Manitoba Pool Elevators	Not Available		24
3 Pettapiece	National Grain Ltd.	1903		36
4 Pitlochry	National Grain Ltd.	1924		50
5 Smart	Manitoba Pool Elevators <sup>2</sup>	1929		69
6 Chumah	National Grain Ltd.	1924		48
7 Floors	National Grain Ltd.	1924		40
8 Ipswich	Manitoba Pool Elevators A	1928		67
	N.M. Paterson & Sons Ltd.	1910		—
	Manitoba Pool Elevators B	1910		48
9 Pope	National Grain Ltd.	1910		53
10 Arrow River	Federal Grain Ltd.	1900		—
	Manitoba Pool Elevators	1900		51
		1956		—
		—		51
<i>Hamlets</i>				
11 Bryd	N.M. Paterson & Sons Ltd.	1910		72
12 Lavinia	Manitoba Pool Elevators A	1908		46
	United Grain Growers Ltd.	1914		47
	Manitoba Pool Elevators B	1914		—
	Manitoba Pool Elevators A	1923		47
	Manitoba Pool Elevators B	1925		28
	Manitoba Pool Elevators <sup>3</sup>	Not Available		27
	Manitoba Pool Elevators	1917		34
		1965		24
		1965		44
		1957		—
16 Moline	Pioneer Grain Ltd.	1929		63
	Manitoba Pool Elevators A	1928		28
	Manitoba Pool Elevators B	1914		26
	Manitoba Pool Elevators A	1938		57
	Manitoba Pool Elevators B	1915		45
	Scottish Co-op. Whlse. Soc. Ltd.	1930		26
	Manitoba Pool Elevators	1927		58
17 McConnell	Manitoba Pool Elevators	Not Available		29
18 Oakner				Closed
19 Bradwardine				(continued)
20 Harding				

TABLE 3.5. COUNTRY ELEVATORS, OWNER, AGE, AND CAPACITY, BY DELIVERY POINT, 1962-63 AND 1971-72 (continued)

Delivery Point	Company	Year of Construction		Storage Capacity 1962-63	Storage Capacity 1971-72
		Elevator	Annex		
21 Isabella		1910	1940	41	41
	Manitoba Pool Elevators A	1955		35	35
	Manitoba Pool Elevators B	1914		50	—
	United Grain Growers Ltd.	1914		—	28
	Manitoba Pool Elevators C	1914		32	74
	Manitoba Pool Elevators A	1927		23	Closed
	Manitoba Pool Elevators B <sup>5</sup>	Not Available		137	137
	Manitoba Pool Elevators A	1929		26	Closed
	Manitoba Pool Elevators B <sup>2</sup>	Not Available		78	78
	United Grain Growers Ltd. No. 1	1940		47	75
	United Grain Growers Ltd. No. 2	1957		28	Closed
	United Grain Growers Ltd. No. 3 <sup>6</sup>	Not Available			
22 Beulah		1964			
23 Forrest		1956			
24 Griswold		1954			
	United Grain Growers Ltd. No. 1	1940			
	United Grain Growers Ltd. No. 2	1889			
	United Grain Growers Ltd. No. 3 <sup>6</sup>	Not Available			
Villages					
25 Lenore		1927		82	82
26 Solsgirth		1928		72	72
	National Grain Ltd.	1924		91	91
27 Crandall		1927		53	53
28 Basswood		1926		41	151
	Manitoba Pool Elevators A	1914		24	24
	Manitoba Pool Elevators B	1908		35	35
	Manitoba Pool Elevators C	1912		25	25
	Manitoba Pool Elevators A	1929		49	102
	Manitoba Pool Elevators B	1940			
	Manitoba Pool Elevators A	1968			
	Manitoba Pool Elevators B	1957			
	N.M. Paterson & Sons Ltd.	1960			
30 Cardale		1928			
	Manitoba Pool Elevators A	1909			
	Manitoba Pool Elevators B	1915			
	Manitoba Pool Elevators C	1928			
31 Alexander		1928			
	N.M. Paterson & Sons Ltd.	1951			
	Manitoba Pool Elevators A	1951			
	Manitoba Pool Elevators B	1951			
	N.M. Paterson & Sons Ltd.	1960			
32 Kenton		1927			
	Manitoba Pool Elevators A	1920			
	Manitoba Pool Elevators B	1968			
	Manitoba Pool Elevators C	1902			

(continued)

TABLE 3.5. COUNTRY ELEVATORS, OWNER, AGE, AND CAPACITY, BY DELIVERY POINT, 1962-63 AND 1971-72 (concluded)

Delivery Point	Company	Year of Construction	Storage Capacity	
			1962-63	1971-72
<i>Towns</i>				
33 Oak River	Manitoba Pool Elevators	1952	55	55
	United Grain Growers Ltd. #1	1921	68	68
	United Grain Growers Ltd. #2	1958	47	47
34 Newdale	Manitoba Pool Elevators A	1923	47	47
	Manitoba Pool Elevators B	1952	45	45
	Manitoba Pool Elevators C	1924	57	57
	United Grain Growers Ltd. #1	1925	69	52
	United Grain Growers Ltd. #2	1903	59	59
35 Minota	Manitoba Pool Elevators	1952	51	51
	Manitoba Pool Elevators	1926	79	79
36 Rapid City	National Grain Ltd.	1952	48	48
	Manitoba Pool Elevators	1957	68	68
37 Strathclair	United Grain Growers Ltd. #1	1925	74	74
	Pioneer Grain Co. Ltd.	1907	45	—
	United Grain Growers Ltd. #2	1907	—	45
38 Oak Lake	Manitoba Pool Elevators A	1928	72	72
	Manitoba Pool Elevators B	1940	33	33
<i>Greater Towns</i>				
39 Rivers	National Grain Co. Ltd.	1951	88	88
	United Grain Growers Ltd.	1957	74	74
40 Hamiota	Manitoba Pool Elevators A	1927	104	104
	Manitoba Pool Elevators B	1929	33	33
41 Birtle	Manitoba Pool Elevators	1967	72	123
	United Grain Growers Ltd. #1	1928	57	57
	Federal Grain Ltd.	1905	63	—
42 Shoal Lake	United Grain Growers Ltd. #2	1905	—	63
	Manitoba Pool Elevators <sup>1</sup>	1929	—	57
43 Virden	United Grain Growers Ltd.	1912	28	93

<sup>1</sup> Elevator moved to Virden July 31, 1964.<sup>2</sup> Former Manitoba Pool Elevator B at Forrest moved to Smart July 31, 1964.<sup>3</sup> Did not apply for licence for 1971-72.<sup>4</sup> Licence cancelled November 15, 1971.<sup>5</sup> Licence cancelled December 29, 1965.<sup>6</sup> United Grain; elevator # 3 annexed to elevator #2.

### Receipts of Grain at Country Elevators

The volume of grain taken into the elevators at a particular delivery point is a measure of that point's relative importance in the grain collection system. Table 3.6 shows receipts of grain for the crop years 1962-63 to 1970-71, together with the ten-year average for each delivery point in the study area. For all points open in 1970-71, the ten-year average receipts range from 51,000 bushels at Chumah to 413,000 bushels at Newdale.

The observation that grain receipts are commensurate with the size of community can be illustrated by listing the ten-year average for each class size: "too small to classify", 90,000 bushels; hamlets, 182,571 bushels; villages, 293,125 bushels; towns, 291,500 bushels; and greater towns, 316,600 bushels.

Receipts vary considerably from year to year reflecting such things as crop yields and the ultimate quota levels. For the total study area an average of 9,133,000 bushels are delivered each year.

TABLE 3.6. RECEIPTS OF GRAIN AT LICENSED COUNTRY ELEVATORS BY DELIVERY POINT, 1962-63 TO 1970-71 AND TEN-YEAR AVERAGE

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69 <sup>1</sup>	1969-70 <sup>1</sup>	1970-71 <sup>1</sup>	Ten-Year Average 1960-61 to 1969-70
<i>— '000 bushels —</i>										
<i>Too Small to Classify</i>										
1 Maples	169	127	Closed							115 <sup>3</sup>
2 Brumlie	93	85	Closed for Storage	99	82	100	76	63	81	4 <sup>3</sup>
3 Pettapiece	79	84		81	62	67	57	55	65	82
4 Pitlochry			Closed	134	174	207	154	176	184	139 <sup>3</sup>
5 Smart										240
6 Chumah	62	63								64
7 Floors	114	85								51
8 Ipswich	293	244								97
9 Pope	67	71								131
10 Arrow River	55	58								188
										198
										82
										116
										82
										67
<i>Hamlets</i>										
11 Bryd	132	124		135	112	133	80	103	124	178
12 Lavinia	194	196		193	221	224	159	133	167	112
13 Kelloe	247	208		207	160	198	129	139	168	180
14 Kemnay	56	44		58	57	32	35			190
15 Glossop	313	298		285	275	244	201	200	305	180
16 Moline	173	159		173	179	176	136	134	159	217
17 McConnell	312	256		271	314	278	229	216	284	177
18 Oakner	74	73		89	89	93	87	75	140	237
19 Bradwardine	255	210		210	201	217	163	161	185	151
20 Harding	111	107		126	111	133	99	89	89	259
21 Isabella	269	280		275	305	293	194	193	223	242
22 Beulah	208	254		257	298	243	203	184	182	208
23 Forrest	509	373		281	279	276	217	165	198	253
24 Griswold	328	307		289	347	380	297	318	306	290

(continued)

TABLE 3.6. RECEIPTS OF GRAIN AT LICENSED COUNTRY ELEVATORS BY DELIVERY POINT<sup>1</sup> 1962-63 TO 1970-71 AND TEN-YEAR AVERAGE  
(concluded)

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69 <sup>1</sup>	1969-70 <sup>1</sup>	1970-71 <sup>1</sup>	Ten-Year Average 1960-61 to 1969-70
<i>Villages</i>										
25 Lenore	296	317	325	322	289	260	260	303	339	263
26 Solsgirth	409	431	443	498	453	367	338	436	523	383
27 Crandall	204	233	243	262	238	201	165	191	230	201
28 Basswood	431	352	345	355	345	267	249	335	368	325
29 Decker	266	302	274	345	315	211	195	285	341	257
30 Cardale	422	314	355	359	329	278	226	297	400	312
31 Alexander	370	385	416	428	450	335	306	347	333	357
32 Kenton	261	264	281	307	287	254	242	278	300	247
<i>Towns</i>										
33 Oak River	347	337	351	331	322	260	200	348	336	295
34 Newdale	535	470	471	515	431	348	308	370	467	413
35 Minota	161	180	207	203	239	195	184	236	281	178
36 Rapid City	463	382	410	378	398	334	308	299	342	345
37 Strathclair	294	307	308	284	307	239	211	256	317	265
38 Oak Lake	330	273	232	304	289	236	250	236	173	253
<i>Greater Towns</i>										
39 Rivers	450	376	425	436	421	348	398	415	450	368
40 Hamiota	367	352	397	421	424	343	309	404	377	353
41 Birtle	393	377	390	433	429	310	268	361	412	334
42 Shoal Lake	307	293	306	268	301	202	165	214	276	243
43 Virden	184	144	306	363	381	419	387	511	420	285
Study Area Total	10,603	9,795	10,239	10,665	10,492	8,349	7,686	9,540	10,687	9,133

<sup>1</sup> Rapeseed receipts are included in 1968-69, 1969-70 and 1970-71 but excluded from receipts in all previous years.

<sup>2</sup> See footnote 2 of Table 3.2.

<sup>3</sup> Average is for those years a delivery point had receipts.

Source: Canadian Grain Commission.

### Throughput Ratios

The throughput ratio is the total number of bushels received by a delivery point in one year divided by its total bushel storage capacity (Table 3.7). This ratio represents one measure of efficiency of the grain elevator or elevators at a delivery point. The ten-year average throughput ratio is the average annual receipts for the period divided by the 1969-70 rated storage capacity. The minimum ratio in the study area in 1962-63 was 1.09 at Arrow River and the highest for that year was 7.45 at Maples. The elevator at Maples has since been moved to Virden. In 1969-70, the minimum ratio was 0.83 at Chumah and the maximum ratio was 5.84 at Oakner. The ten-year average throughput ratio for the total study area was 2.14.

TABLE 3.7. THROUGHPUT RATIOS BY DELIVERY POINT, 1962-63, 1969-70 AND PREVIOUS TEN-YEAR AVERAGE

Delivery Point	1962-63	1969-70	Ten-Year Average 1960-61 to 1969-70
<i>Too Small to Classify</i>			
1 Maples	7.45	Closed	
2 Brumlie	Closed for Storage		0.20
3 Pettapiece	2.58	2.26	2.27
4 Pitlochry	1.59	1.31	1.30
5 Smart	Closed	2.67	2.03
6 Chumah	1.30	0.83	1.07
7 Floors	2.85	2.82	2.43
8 Ipswich	2.08	1.10	1.41
9 Pope	1.27	2.84	1.54
10 Arrow River	1.09	1.72	1.32
<i>Hamlets</i>			
11 Bryd	1.82	1.71	1.54
12 Lavinia	2.08	1.79	1.93
13 Kellow	4.49	3.06	3.21
14 Kemany	1.66	Closed for Storage	1.23
15 Glossop	3.58	2.84	2.48
16 Moline	3.19	2.94	2.78
17 McConnell	3.05	2.78	2.53
18 Oakner	2.83	5.84	3.37
19 Bradwardine	4.44	3.21	3.31
20 Harding	3.88	3.10	3.58
21 Isabella	2.12	1.76	1.91
22 Beulah	3.80	2.46	2.80
23 Forrest	3.13	1.45	1.85
24 Griswold	2.14	2.08	1.90

(continued)

TABLE 3.7. THROUGHPUT RATIOS BY DELIVERY POINT, 1962-63, 1969-70 AND PREVIOUS TEN-YEAR AVERAGE (concluded)

Delivery Point	1962-63	1969-70	Ten-Year Average 1960-61 to 1969-70
<i>Villages</i>			
25 Lenore	3.60	3.69	3.20
26 Solsgirth	2.52	2.68	2.35
27 Crandall	3.86	3.61	3.82
28 Basswood	4.29	3.22	3.13
29 Decker	3.59	2.25	2.02
30 Cardale	2.45	1.72	1.81
31 Alexander	1.94	1.82	1.87
32 Kenton	3.18	2.08	1.85
<i>Towns</i>			
33 Oak River	2.04	2.05	1.74
34 Newdale	1.93	1.42	1.59
35 Minniota	3.16	4.64	3.49
36 Rapid City	3.66	2.36	2.72
37 Strathclair	1.57	1.37	1.42
38 Oak Lake	3.13	2.24	2.39
<i>Greater Towns</i>			
39 Rivers	2.78	2.56	2.27
40 Hamiota	2.68	2.95	2.58
41 Birtle	5.48	2.93	2.71
42 Shoal Lake	2.55	1.78	2.02
43 Virden	6.56	3.40	1.90
Study Area Total	2.72	2.28	2.14

Source: Canadian Wheat Board.

### Acres for Delivery Quota Purposes

Prior to the beginning of the 1970-71 crop year, the basis for determining each producer's general grain delivery quota was the acres devoted to cereal crops, summer fallow and cultivated forage crops. This land was referred to as "specified acreage". Other miscellaneous crops, native pasture and unimproved farmland were not part of the specified acreage; neither were oilseeds which had their own quotas based on declared seeded acreage.

The number of specified acres tributary to a delivery point indicate the amount of grain producing land available and the demand for grain handling and storage facilities there. Table 3.8 shows the specified acreage for each delivery point from 1962-63 to 1969-70. In 1969-70, 978,713 acres of the 1,446,717 acres of farmland in the Virden region were specified acreage. A one bushel quota would, therefore result in the delivery of about 978,713 bushels of grain.

From 1962-63 to 1969-70 the total specified acreage in the study area increased by 5.6 percent. The largest decrease, 43.8 percent, occurred at Chumah; while the largest increase, 64.1 percent, occurred at Virden.

Following the Operation LIFT program of 1970-71, further changes in the delivery quota system were introduced for the 1971-72 crop year. Under the new system each producer was required to calculate his total number of assignable acres by adding together his 1971 acreages in (1) the six quota grains;<sup>1</sup> (2) summer fallow; (3) other miscellaneous annual crops and (4) perennial forage up to one third of the total of items (1) to (3). Subject to certain regulations, total assignable acres could be distributed for quota purposes to any one of the quota grains whether or not the producer had any land seeded to the particular crop that year (1971). In consequence there are about 16 different delivery quotas, each with a separate assigned acreage and each may be terminated or increased independently by the Wheat Board.

Tables 3.9 and 3.10 show 1970-71 and 1971-72 seeded and assigned quota acreages of the major grains for each delivery point in the Virden region. In 1970-71 the total number of acres assigned to wheat for delivery quota purposes was approximately 3.5 times (346 percent) the seeded acres. This would indicate a fairly large build up of farm stocks of wheat that producers in the region wished to reduce by delivering it to the Canadian Wheat Board. In 1971-72 quota acres for wheat were down to 2.8 times seeded acres of wheat in the study region.

The ratios of quota acres to seeded acres for all the other grains shown, except oats, were over 100 percent in both years for both the study area and the province. As a guide to producers on how much to assign to each kind of grain the Canadian Wheat Board announced prior to seeding time that the minimum quota levels at the end of the 1971-72 crop year were expected to be: wheat, 8 to 10 bushels per quota acre; oats, 7 or 8 bushels; and barley, 15 to 20 bushels.

---

<sup>1</sup> These are wheat (including durum), barley, oats, rye, flaxseed and rapeseed.

TABLE 3.8. CANADIAN WHEAT BOARD SPECIFIED ACREAGE FOR DELIVERY POINT, 1962-63 TO 1969-70

Delivery Point	1962-63 <sup>1</sup>	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	Percent of change 1962-63 to 1969-70
— acres —									
<i>Too Small to Classify</i>									
1 Maple	22,007	21,361	Closed						
2 Brumlie	7,863	8,173	7,464	7,315	7,282	6,835	6,916	- 2.4	
3 Pettapiece	6,130	6,737	6,340	6,434	6,189	6,053	6,952	+11.8	
4 Pitlochry									
5 Smart	Closed								
6 Chumah	5,754	5,509	5,072	5,062	3,716	3,795	3,943	- 43.8	
7 Floors	9,070	9,608	9,559	9,681	8,956	9,566	9,632	+ 5.8	
8 Ipswich	17,821	18,309	17,098	16,658	16,251	16,851	15,195	- 24.1	
9 Pope	7,277	7,665	8,096	8,400	8,225	8,616	9,168	+43.4	
10 Arrow River	7,008	6,854	7,753	9,412	9,382	9,920	9,711	+38.1	
<i>Hamlets</i>									
11 Bryd	7,978	8,553	9,212	9,902	9,065	9,598	12,772	+31.0	
12 Lavinia	14,944	15,218	15,341	14,832	16,332	17,553	16,646	+ 8.0	
13 Kelloe	17,379	16,360	16,063	15,035	15,091	15,635	15,600	- 3.1	
14 Kemnay	5,587	6,123	6,214	6,190	3,675	4,580	Closed for Storage		
15 Glossop	16,275	16,993	17,652	17,077	16,398	17,979	19,148	+18.0	
16 Moline	13,671	13,835	13,545	13,257	13,729	14,553	14,600	+18.1	
17 McConnell	21,530	20,651	20,684	20,457	21,770	21,475	22,166	+ 2.9	
18 Oakner	7,695	7,811	7,683	7,824	8,361	8,827	9,452	+31.8	
19 Bradwardine	22,524	21,302	21,704	20,752	20,738	21,419	21,486	- 7.2	
20 Harding	12,460	11,774	12,294	12,210	11,235	11,660	11,090	10,570	- 17.9
21 Isabella	25,226	24,940	25,054	23,846	24,392	24,856	25,750	26,058	+ 3.2
22 Beulah	27,481	26,435	27,111	26,573	26,519	27,111	27,250	27,712	+ .8
23 Forrest	38,240	38,931	34,928	34,962	33,834	36,021	36,362	38,680	+ 1.1
24 Griswold	37,252	38,549	39,104	38,830	37,501	39,212	39,450	38,375	+ 2.9

(continued)

TABLE 38 CANADIAN WHEAT BOARD SPECIFIED ACREAGE FOR DELIVERY PURPOSES BY DELIVERY POINT, 1962-63 TO 1969-70  
(concluded)

Delivery Point	1962-63 <sup>1</sup>	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	Percent of change 1962-63 to 1969-70
	— acres —								
<i>Villages</i>									
25 Lenore	40,684	40,322	40,989	40,347	40,371	40,899	41,400	40,439	-.6
26 Solsgirth	30,271	33,138	35,113	37,780	39,236	42,453	41,045	40,324	+24.9
27 Crandall	21,996	22,537	22,847	23,166	23,431	24,632	23,732	18,517	-18.8
28 Basswood	29,069	29,334	29,720	29,311	30,677	31,413	31,778	32,739	+11.2
29 Decker	23,363	23,648	24,030	22,891	24,418	22,337	24,485	25,614	+ 8.8
30 Cardale	29,414	27,701	26,940	24,709	34,227	27,471	26,894	26,563	-10.7
31 Alexander	36,548	38,088	36,547	35,265	36,537	38,200	39,357	33,464	- 9.2
32 Kenton	30,398	30,712	30,304	29,084	30,084	30,984	32,336	34,577	+12.1
<i>Towns</i>									
33 Oak River	27,597	27,287	26,695	26,754	26,861	27,833	27,405	25,711	- 7.3
34 Newdale	32,918	32,691	34,436	33,532	33,110	34,046	32,852	31,755	- 3.7
35 Minota	24,484	24,593	26,823	27,220	28,266	30,372	30,311	31,616	+22.6
36 Rapid City	36,893	35,986	34,637	34,782	34,238	36,505	37,396	32,394	-13.9
37 Strathclair	19,745	21,693	20,581	21,187	20,869	22,108	22,756	21,742	+ 9.2
38 Oak Lake	43,790	43,844	41,745	39,718	39,276	38,526	40,126	38,892	-12.6
<i>Greater Towns</i>									
39 Rivers	37,903	43,395	44,459	46,527	42,177	49,152	47,352	49,132	+22.8
40 Hamiota	27,883	28,679	30,202	29,912	29,286	31,851	32,325	28,406	+ 1.8
41 Birtle	35,706	37,215	37,840	38,287	38,688	39,035	39,995	38,059	+ 6.2
42 Shoal Lake	22,155	22,828	22,556	21,737	23,124	23,132	21,143	21,748	- 1.9
43 Virden	22,970	23,832	44,026	46,345	47,718	56,471	58,038	63,975	+64.1
Study Area Total	924,097	939,149	939,976	933,753	941,546	980,334	982,130	978,713	+ 5.6

<sup>1</sup> Durum excluded from Specified Acreage in 1962-63.

Source: Canadian Wheat Board.

TABLE 3.9. MAJOR GRAINS: QUOTA ACRES AS A PERCENT OF SEEDED ACRES, BY DELIVERY POINT, 1970-71

Delivery Point	Wheat			Oats			Barley			Flaxseed		
	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent
<i>Too Small to Classify</i>												
1 Maples	Closed											
2 Brumlie	Closed for Storage											
3 Pettipiece	1,336	4,363	327	336	436	130	1,524	1,637	107	638	654	103
4 Pitlochry	1,339	3,334	249	724	785	108	1,115	1,517	136	353	353	100
5 Smart	Closed											
6 Chumah	575	2,094	364	282	291	103	534	998	187	270	280	104
7 Floors	1,719	5,275	307	924	924	100	2,292	2,465	108	439	439	100
8 Ipswich	1,591	7,313	460	1,586	1,586	100	3,199	3,462	108	928	928	100
9 Pope	1,559	6,526	419	1,129	1,130	100	1,712	2,115	124	1,482	1,658	112
10 Arrow River	2,126	5,680	267	1,219	1,585	130	1,469	1,971	134	415	415	100
<i>Hamlets</i>												
11 Bryd	1,397	5,700	408	892	932	104	2,773	3,530	127	409	409	100
12 Lavinia	2,553	9,827	385	528	578	109	3,067	3,219	105	1,524	1,696	111
13 Kelloe	2,144	8,558	399	1,090	1,613	148	3,985	5,069	127	756	766	101
14 Kemnay	Closed for Storage											
15 Glossop	1,871	11,676	624	901	901	100	3,669	4,904	134	1,973	2,026	103
16 Moline	2,587	10,028	388	993	1,129	114	2,820	3,347	119	1,519	1,519	100
17 McConnel	2,698	11,256	417	2,073	2,127	103	4,627	4,753	103	1,954	1,990	102
18 Oakner	1,925	5,974	310	675	772	114	2,499	2,691	108	902	902	100
19 Bradwardine	3,560	11,557	325	1,475	1,475	100	2,414	2,640	109	1,347	1,412	105
20 Harding	2,429	5,782	238	1,191	1,201	101	1,587	1,592	100	920	920	100
21 Isabella	3,945	16,134	409	3,168	3,168	100	3,770	3,875	103	1,188	1,188	100
22 Beulah	4,496	15,844	352	2,712	2,757	102	2,109	2,399	114	758	758	100
23 Forrest	5,759	20,420	355	1,958	2,143	109	6,506	7,616	117	3,629	3,709	102
24 Griswold	6,591	20,478	311	3,070	3,250	106	4,259	5,505	129	2,442	3,323	136

(continued)

TABLE 3.9. MAJOR GRAINS: QUOTA ACRES AS A PERCENT OF SEEDED ACRES, BY DELIVERY POINT, 1970-71 (concluded)

Delivery Point	Wheat			Oats			Barley			Flaxseed		
	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent
<i>Villages</i>												
25 Lenore	7,715	16,879	219	7,453	7,702	103	4,242	4,482	106	809	946	117
26 Solsgirth	4,782	21,365	447	4,464	4,591	103	7,142	8,329	117	2,104	2,319	110
27 Crandall	3,032	12,847	424	1,432	1,572	110	1,832	1,882	103	2,446	2,498	102
28 Basswood	5,739	17,584	306	1,699	1,822	107	5,545	6,414	116	1,977	2,139	108
29 Decker	2,847	13,609	478	1,178	1,212	103	3,984	4,338	109	3,232	3,252	101
30 Cardale	3,699	14,758	399	1,408	1,486	106	5,251	5,864	112	3,198	3,238	101
31 Alexander	5,265	14,580	277	3,107	3,604	116	5,133	5,926	115	3,658	4,055	111
32 Kenton	6,943	15,651	225	4,476	4,681	105	5,423	5,964	110	1,282	1,332	104
<i>Towns</i>												
33 Oak River	3,035	14,618	482	1,921	2,234	116	3,933	4,302	109	3,340	4,014	120
34 Newdale	3,956	18,562	469	1,922	1,922	100	6,501	7,753	119	2,269	2,279	100
35 Minota	3,392	14,716	434	4,151	4,629	112	3,979	5,046	127	1,220	1,220	100
36 Rapid City	5,478	19,305	352	2,541	2,601	102	3,471	4,161	120	3,035	3,301	109
37 Strathclair	3,229	11,751	364	1,907	2,148	113	5,977	7,527	126	2,106	2,451	116
38 Oak Lake	3,599	9,585	266	6,337	10,200	161	4,455	6,382	143	1,644	1,644	100
<i>Greater Towns</i>												
39 Rivers	9,895	27,318	276	4,380	5,276	120	6,781	7,760	114	4,170	4,455	107
40 Hamiota	5,090	17,226	338	1,626	1,696	104	4,710	5,043	107	3,227	3,227	100
41 Birtle	6,059	20,894	345	3,001	3,421	114	5,107	6,255	122	1,839	2,318	126
42 Shoal Lake	2,345	11,068	472	3,199	3,738	117	4,729	5,968	126	1,289	1,391	103
43 Virden	6,451	20,507	318	7,094	10,626	150	5,663	8,395	148	4,832	6,376	132
Study Area Total	144,751	500,642	346	90,222	103,944	115	149,788	177,096	118	71,523	77,800	109
Provincial Total	1,573,254	4,944,532	314	358,157	1,719,722	127	549,707	1,956,043	126	120,973	1,283,001	114

TABLE 3.10. MAJOR GRAINS: QUOTA ACRES AS A PERCENT OF SEEDED ACRES, BY DELIVERY POINT, 1971-72

Delivery Point	Wheat			Oats			Barley			Rapeseed		
	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent
<i>Too Small to Classify</i>												
1 Maples	Closed											
2 Brumlie	Closed in 1971											
3 Pettapiet	4,144	337	343	210	61	1,942	2,405	124	560	640	114	
4 Pitlochry	4,551	284	767	246	32	1,488	2,188	147	524	535	102	
5 Smart	Closed											
6 Chumah	1,218	3637	299	367	207	56	1,004	1,192	119	321	457	142
7 Floors	2,082	6,092	293	966	485	50	2,318	3,203	138	154	210	136
8 Ipswich	2,448	6,380	261	1,231	364	30	3,880	5,330	137	921	1,123	122
9 Pope	1,951	6,723	345	1,045	238	23	1,995	2,979	149	585	1,077	184
10 Arrow River	2,952	6,969	236	1,201	703	59	2,039	2,525	124	160	200	125
<i>Hamlets</i>												
11 Bryd	2,148	6,431	299	775	300	39	3,084	3,894	126	489	610	125
12 Lavinia	3,751	11,770	314	941	399	42	4,040	3,900	97	1,095	1,102	101
13 Kelloe	2,827	9,094	322	1,153	295	26	4,745	5,901	124	717	1,040	145
14 Kemnay	Closed in 1971											
15 Glossop	3,596	10,548	293	763	264	35	4,721	6,078	129	2,968	3,267	110
16 Moline	3,834	10,893	284	1,348	488	36	3,454	4,372	127	951	1,228	129
17 McConnell	4,532	13,086	289	1,952	947	49	5,718	6,902	121	963	1,165	121
18 Oakner	2,731	8,759	321	802	517	64	2,954	2,995	101	934	980	105
19 Bradwardine	8,076	20,202	250	2,556	1,030	40	4,710	5,007	106	154	243	158
20 Harding	Closed in 1971											
21 Isabella	7,005	20,266	289	2,783	584	21	5,257	5,240	100	629	626	100
22 Beulah	8,670	20,257	234	2,471	1,079	44	3,171	3,436	108	462	392	85
23 Forrest	8,346	22,850	274	2,329	1,480	64	9,069	9,631	106	1,211	1,275	105
24 Griswold	10,253	23,972	234	3,813	3,297	86	6,066	9,091	150	224	224	100

(continued)

TABLE 3.10. MAJOR GRAINS: QUOTA ACRES AS A PERCENT OF SEDED ACRES, BY DELIVERY POINT, 1971-72 (concluded)

Delivery Point	Wheat			Oats			Barley			Rapeseed		
	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent	Seeded	Quota	Percent
<i>Villages</i>												
25 Lenore	8,688	25,206	290	7,801	4,913	63	5,449	6,934	127	396	506	128
26 Solsgirth	9,864	26,338	267	4,722	2,619	55	9,218	10,760	117	1,976	2,069	105
27 Crandall	5,004	14,947	299	1,431	290	20	3,060	3,681	120	1,529	1,535	100
28 Basswood	7,320	21,026	287	1,935	578	30	7,178	9,565	133	2,264	3,082	136
29 Decker	5,499	15,824	288	1,094	278	25	4,853	4,593	95	1,837	2,029	110
30 Cardale	5,288	15,365	291	1,416	940	66	6,760	8,262	122	2,427	2,984	123
31 Alexander	7,741	20,003	258	3,281	1,871	57	7,620	9,270	122	1,129	1,241	110
32 Kenton	9,166	26,096	285	5,077	2,047	40	8,464	9,288	110	458	409	89
<i>Towns</i>												
33 Oak River	4,889	14,244	291	2,016	898	45	6,230	8,839	142	2,288	3,045	133
34 Newdale	5,780	16,401	284	1,321	435	33	7,870	10,418	132	4,441	6,405	144
35 Minniota	6,173	20,009	324	4,568	3,152	69	5,141	7,759	151	1,250	1,293	103
36 Rapid City	9,084	22,718	250	2,737	1,364	50	6,147	7,455	121	2,413	3,678	152
37 Strathclair	3,842	11,004	286	1,662	552	33	7,170	9,411	131	1,877	2,707	144
38 Oak Lake	5,848	17,997	308	6,696	8,447	126	5,002	4,983	100	296	438	148
<i>Greater Towns</i>												
39 Rivers	12,537	27,342	218	5,271	6,039	115	9,658	13,059	135	1,338	2,049	153
40 Hamiota	6,010	18,410	306	1,666	518	31	6,036	7,878	131	2,025	2,239	111
41 Birtle	8,344	26,856	322	3,522	2,157	61	6,209	7,098	114	2,238	2,248	100
42 Shoal Lake	3,120	11,975	384	2,349	870	37	5,413	5,913	109	1,343	1,879	140
43 Virden	10,579	28,681	271	8,512	7,585	89	9,267	13,803	149	1,685	2,511	149
Study Area Total	214,027	597,066	279	94,683	58,686	62	198,400	245,238	124	47,232	58,741	124
Provincial Total	2,677,550	6,722,922	251	1,555,093	1,159,313	75	2,169,912	2,533,642	117	596,458	742,308	124

104

### Acres Devoted to Canadian Wheat Board Grains

An accepted division of crops separates wheat, durum, oats and barley, the Wheat Board grains, from other cereals and oilseeds. Table 3.11 indicates the degree to which farmers in the hinterland of each delivery point rely on the Wheat Board to market their crops. This table presents a time series of specified acres, 1962-63 to 1969-70, devoted to Board grains. Board grain acres as a percent of total specified acres is also given.

From 1962-63 to 1969-70 the percentages of specified acres in Board grains were fairly uniform. For the study area the percentage of Board grain acres to total specified acres ranged from a low of 51.2 percent to a high of 57.9 percent.

TABLE 3.11. NUMBER AND PERCENT OF SPECIFIED ACRES DEVOTED TO CANADIAN WHEAT BOARD GRAINS<sup>1</sup> BY DELIVERY POINT, 1962-63 TO 1969-70

Delivery Point	1962-63 <sup>2</sup>		1963-64		1964-65		1965-66		1966-67		1967-68		1968-69		1969-70	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
<i>Too Small to Classify</i>																
1 Maples	9,559	43.4	9,520	44.6	Closed											
2 Brumlie			Closed for Storage													
3 Pettapiece	3,723	52.6	4,166	53.0	4,498	55.0	3,929	52.6	4,184	57.2	4,332	59.5	3,832	56.1	3,911	56.6
4 Pittlochry	3,252	53.0	3,763	55.9	3,659	54.5	3,867	61.0	3,675	57.1	3,616	58.4	3,715	61.4	3,949	56.8
5 Smart			Closed													
6 Chumah	2,737	48.3	2,821	49.0	2,684	48.7	2,605	51.4	2,660	52.6	1,919	51.6	2,005	52.8	1,830	46.4
7 Floors	4,773	52.6	5,074	52.8	5,386	56.3	5,874	60.7	5,414	60.4	5,431	56.8	5,369	56.1	5,274	54.8
8 Ipswich	10,425	58.5	10,951	59.8	9,975	58.3	10,416	62.5	10,184	62.7	10,288	61.0	9,479	62.4	8,051	56.0
9 Pope	3,832	52.7	3,729	48.6	4,278	52.8	4,719	56.2	4,691	57.0	4,405	51.1	4,804	52.4	6,547	50.9
10 Arrow River	3,509	50.1	3,744	54.6	4,261	55.0	5,393	57.3	5,187	55.3	5,469	55.1	5,169	53.2	6,400	56.5
<i>Hamlets</i>																
11 Bryd	4,330	54.3	4,663	54.5	5,360	58.2	5,933	59.9	5,462	60.2	5,594	58.3	7,528	58.9	6,333	54.7
12 Lavinia	7,858	52.6	8,048	52.9	8,154	53.2	8,341	56.2	9,822	60.1	10,577	60.3	9,745	58.5	8,331	51.3
13 Kellow	10,570	60.8	9,802	59.9	9,985	62.2	9,668	64.3	9,299	61.6	9,952	63.6	9,379	60.1	8,763	52.0
14 Kemnay	2,784	49.8	3,050	49.8	3,485	56.1	3,645	58.9	1,925	52.4	2,548	55.6	Closed for Storage			
15 Glossop	7,903	48.6	8,602	50.6	9,618	54.5	9,242	54.1	8,963	54.7	9,557	53.2	10,196	53.2	9,326	47.0
16 Moline	7,019	51.3	7,430	53.7	7,454	55.0	7,595	57.3	8,334	60.7	8,914	61.2	8,498	58.2	8,709	52.2
17 McConnell	11,885	55.2	11,380	55.1	11,463	55.4	12,202	58.4	12,635	61.8	13,427	61.7	13,095	61.0	12,496	56.4
18 Oakner	3,858	50.1	3,800	48.6	4,004	52.1	4,311	55.1	4,290	51.3	5,201	58.9	5,231	55.3	5,865	52.0
19 Bradwardine	11,350	50.4	10,285	48.3	11,084	51.1	10,660	51.4	10,879	52.5	11,398	53.2	11,157	51.9	10,131	48.2
20 Harding	6,396	51.3	6,057	51.4	6,900	56.1	6,794	55.6	6,955	61.9	7,329	62.9	6,892	62.2	6,118	57.9
21 Isabella	13,140	52.1	13,441	53.9	14,222	56.8	14,054	58.9	14,830	60.8	15,504	62.4	15,331	59.5	15,270	58.6
22 Beulan	14,600	53.1	13,024	49.3	13,994	51.6	14,095	53.0	15,533	58.6	16,007	59.0	16,048	58.9	14,651	52.9
23 Forrest	20,649	54.0	21,473	55.2	19,230	55.1	20,088	57.5	20,009	59.1	22,450	62.3	22,313	61.4	20,395	52.7
24 Griswold	18,979	51.0	19,999	51.9	20,539	52.5	20,503	52.8	22,064	58.8	21,813	55.6	22,224	56.3	19,526	50.9

(continued)

TABLE 3.11. NUMBER AND PERCENT OF SPECIFIED ACRES DEVOTED TO CANADIAN WHEAT BOARD GRAINS<sup>1</sup> BY DELIVERY POINT, 1962-63 TO 1969-70 (concluded)

Delivery Point	1962-63 <sup>2</sup>		1963-64		1964-65		1965-66		1966-67		1967-68		1968-69		1969-70	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
<i>Villages</i>																
25 Lenore	21,010	51.6	21,204	52.6	21,607	52.7	22,558	55.9	23,221	57.5	23,214	56.8	24,143	58.3	22,628	56.0
26 Solsgirth	16,286	53.8	18,653	56.3	20,242	57.6	22,742	60.2	24,513	62.5	26,866	63.3	24,618	60.0	22,666	56.2
27 Crandall	10,631	48.3	10,954	48.6	11,758	51.5	12,079	52.1	12,567	53.6	13,704	55.6	12,445	52.4	8,067	43.6
27 Basswood	14,215	48.9	14,672	50.0	15,351	51.6	15,532	53.0	16,872	55.0	17,545	55.8	17,922	56.4	17,180	52.5
28 Decker	12,208	52.2	12,305	52.0	13,913	57.9	14,135	61.8	14,944	61.2	14,368	64.3	15,016	61.3	13,541	52.9
29 Cardale	15,356	52.2	14,421	52.1	15,469	57.4	14,534	58.8	20,074	58.6	17,352	63.2	16,340	60.8	14,539	54.7
30 Alexander	19,318	52.9	20,638	54.2	20,139	55.1	19,711	55.9	21,188	58.0	22,790	59.7	23,717	60.3	17,948	53.6
31 Kenton	15,170	49.9	15,509	50.5	16,102	53.1	16,677	57.3	17,896	59.5	18,900	61.0	19,554	60.5	20,360	58.9
<i>Towns</i>																
32 Oak River	14,252	51.6	14,037	51.4	14,710	55.1	14,483	54.1	15,085	56.2	15,238	54.8	14,766	53.9	13,307	51.8
33 Newdale	16,924	51.4	16,625	50.8	18,188	52.8	18,157	54.2	18,728	56.6	19,625	57.6	19,240	58.6	16,018	50.4
34 Minota	11,933	48.7	11,716	47.6	13,656	50.9	14,171	52.1	15,473	54.7	16,236	53.6	15,739	51.9	15,773	49.9
35 Rapid City	18,872	51.2	18,999	52.8	18,929	54.6	19,453	55.9	19,353	56.5	21,079	57.7	21,965	58.7	16,401	50.6
36 Strathclair	10,192	51.6	11,539	53.2	11,108	54.0	12,035	56.8	12,592	60.3	13,145	59.5	13,356	58.7	11,340	52.2
37 Oak Lake	20,219	46.2	20,373	46.5	19,817	47.5	19,985	50.3	19,601	49.9	19,059	49.5	20,260	50.5	17,932	46.1
<i>Greater Towns</i>																
38 Rivers	19,803	52.2	23,445	54.0	24,057	54.1	25,700	55.2	24,089	57.1	28,738	58.5	27,973	59.1	25,788	52.5
39 Hamiota	13,878	49.8	14,875	51.9	16,143	53.4	17,409	58.2	17,292	59.0	19,567	61.4	18,431	57.0	14,279	50.3
40 Birtle	17,650	49.4	18,564	49.9	18,860	49.8	21,070	55.0	22,803	58.9	22,452	57.5	21,909	54.8	18,358	48.2
41 Shoal Lake	12,270	55.4	13,074	57.3	13,188	58.5	12,816	59.0	14,187	61.4	14,270	61.7	12,411	58.7	12,104	55.7
42 Virden	10,211	44.4	10,571	44.4	19,374	44.0	21,835	47.1	23,723	49.7	27,271	48.3	29,942	51.6	29,746	46.5
Study Area Total	473,529	51.2	486,996	51.9	502,844	53.5	519,016	55.6	541,196	57.5	567,180	57.9	561,757	57.2	509,851	52.1

<sup>1</sup>Wheat Board Grains are wheat, durum, oats, barley.

<sup>2</sup>Durum excluded from Wheat Board grains in 1962-63.

Source: Canadian Wheat Board.

### Country Elevator Storage Capacity and Quota Acres

The optimum storage capacity of a delivery point is a function of many factors, including the number of kinds and grades of grain produced in the area, the number of rail cars that can be loaded there, the frequency of rail service, the number of permits issued at the point, and other factors. Another important factor is the number of delivery quota acres tributary to the elevator point.

Table 3.12 presents data on the ratio of elevator storage capacity to total quota acres at each delivery point. This ratio represents the number of quotas in bushels per acre that are required to fill an empty delivery point. As quota acres increase relative to storage capacity the number of quotas needed decreases and vice versa. The lower the ratio, the greater is the demand for space at a delivery point. Chumah and Ipswich had the highest ratios, 8.6 and 8.3 respectively; while Oakner and Miniota had the lowest ratios, 1.7 and 1.5 respectively. A comparison between the ratios of storage capacity to quota acres and the throughput ratios in Table 3.6 shows that there is an inverse relationship. Chumah and Ipswich, for instance, have relatively low throughput ratios whereas Oakner and Miniota have higher throughputs.

TABLE 3.12. RATIO OF ELEVATOR CAPACITY TO TOTAL QUOTA ACRES BY DELIVERY POINT,  
1971-72

Delivery Point	Bushel Storage Capacity	Total Quota Acres	Ratio of Storage Capacity to Quota Acres
— '000 bu.—			
<i>Too Small to Classify</i>			
1 Maples	Closed		
2 Brumlie	Closed		
3 Pettapiece	36	7,693	4.7
4 Pitlochry	50	7,620	6.6
5 Smart	Closed		
6 Chumah	48	5,583	8.6
7 Floors	40	10,310	3.9
8 Ipswich	115	13,917	8.3
9 Pope	53	12,141	4.4
10 Arrow River	51	10,746	4.7

(continued)

TABLE 3.12. RATIO OF ELEVATOR CAPACITY TO TOTAL QUOTA ACRES BY DELIVERY POINT,  
1971-72 (concluded)

Delivery Point	Bushel Storage Capacity	Total Quota Acres	Ratio of Storage Capacity to Quota Acres
<i>Hamlets</i>			
11 Bryd	72	11,679	6.2
12 Lavinia	93	17,825	5.2
13 Kelloe	55	16,940	3.2
14 Kemnay	Closed		
15 Glossop	108	21,824	4.9
16 Moline	54	17,770	3.0
17 McConnell	102	23,245	4.4
18 Oakner	24	13,826	1.7
19 Bradwardine	58	28,726	2.0
20 Harding	Closed		
21 Isabella	104	27,274	3.8
22 Beulah	74	26,778	2.8
23 Forrest	137	37,487	3.6
24 Griswold	153	38,932	3.9
<i>Villages</i>			
25 Lenore	82	38,891	2.1
26 Solsgirth	163	42,963	3.8
27 Crandall	53	22,363	2.4
28 Basswood	210	36,056	5.8
29 Decker	127	24,073	5.3
30 Cardale	172	29,203	5.9
31 Alexander	191	35,340	5.4
32 Kenton	134	38,700	3.5
<i>Towns</i>			
33 Oak River	170	27,937	6.1
34 Newdale	260	34,772	7.5
35 Miniota	51	33,255	1.5
36 Rapid City	127	37,183	3.4
37 Stratclair	187	24,797	7.5
38 Oak Lake	106	35,416	3.0
<i>Greater Towns</i>			
39 Rivers	162	52,366	3.1
40 Hamiota	137	30,200	4.5
41 Birtle	123	39,887	3.1
42 Shoal Lake	120	21,421	5.6
43 Virden	150	61,844	2.4
Study Area Total	4,152	1,016,983	4.1

### Number of Boxcars per Shunt that Can be Loaded

The number of boxcars which an elevator operator can load in one group is limited by the length of the rail siding and the location of the elevator on the siding. Although a siding may accommodate as many as twenty boxcars, perhaps only four or five can be loaded for collection by a train at one call. Both the number of car lengths from the spout of an elevator belonging to one company to the spout of a neighboring elevator belonging to another company and the number of car lengths to the ends of the siding determine how many boxcars can be loaded per shunt.

Data for each delivery point and each elevator company are given in Table 3.13. Generally, as the size of the community increases there are more elevators and therefore a greater number of boxcars per delivery point. The range in number of boxcars per shunt is from 3 cars at Pettapiece and Chumah to 18 cars at Newdale.

TABLE 3.13. MAXIMUM NUMBER OF BOXCARS PER SHUNT THAT CAN BE LOADED BY DELIVERY POINT AND ELEVATOR COMPANY, 1969-70

Delivery Point	No. of Cars Per Point	Elevator Company	No. of Cars Per Elevator Company
<i>Too Small to Classify</i>			
1 Maples	Closed		
2 Brumlie	4	Manitoba Pool Elevators	4
33 Pettapiece	3	National Grain Ltd.	3
4 Pitlochry	6	National Grain Ltd.	6
5 Smart	6	Manitoba Pool Elevators	6
6 Chumah	3	National Grain Ltd.	3
7 Floors	11	National Grain Ltd.	11
8 Ipswich	15	Manitoba Pool Elevators A	10
		Manitoba Pool Elevators B	5
9 Pope	15	National Grain Ltd.	15
10 Arrow River	10	Federal Grain Ltd.	10
<i>Hamlets</i>			
11 Bryd	4	N.M. Paterson & Sons Ltd.	4
12 Lavinia	6	Manitoba Pool Elevators A	3
		Manitoba Pool Elevators B	3
13 Kelloe	10	Manitoba Pool Elevators A	7
		Manitoba Pool Elevators B	3
14 Kemnay	4	Manitoba Pool Elevators	4
15 Glossop	11	Manitoba Pool Elevators	4
		Pioneer Grain Co. Ltd.	7
16 Moline	12	Manitoba Pool Elevators A	5
		Manitoba Pool Elevators B	7
17 McConnell	14	Manitoba Pool Elevators A	7
		Manitoba Pool Elevators B	7

(continued)

TABLE 3.13. MAXIMUM NUMBER OF BOXCARS PER SHUNT THAT CAN BE LOADED BY DELIVERY POINT AND ELEVATOR COMPANY, 1969-70 (continued)

Delivery Point	No. of Cars Per Point	Elevator Company	No. of Cars Per Elevator Company
18 Oakner	6	Scottish Co-op. Whlse. Soc. Ltd.	6
19 Bradwardine	10	Manitoba Pool Elevators	10
20 Harding	4	Manitoba Pool Elevators	4
21 Isabella	15	Manitoba Pool Elevators A	1
		Manitoba Pool Elevators B	9
		Manitoba Pool Elevators C	5
22 Beulah	12	Manitoba Pool Elevators	12
23 Forrest	8	Manitoba Pool Elevators	8
24 Griswold	16	United Grain Growers Ltd. 1	8
		United Grain Growers Ltd. 2	8
<i>Villages</i>			
25 Lenore	6	Manitoba Pool Elevators	6
26 Solsgirth	9	Manitoba Pool Elevators	7
		National Grain Ltd.	2
27 Crandall	14	Manitoba Pool Elevators	14
28 Basswood	15	Manitoba Pool Elevators A	3
		Manitoba Pool Elevators B	7
		Manitoba Pool Elevators C	5
29 Decker	10	Manitoba Pool Elevators A	4
		Manitoba Pool Elevators B	6
30 Cardale	10	Manitoba Pool Elevators A	5
		Manitoba Pool Elevators B	2
		Manitoba Pool Elevators C	3
31 Alexander	16	Manitoba Pool Elevators	8
		N.M. Paterson & Sons Ltd.	8
32 Kenton	10	Manitoba Pool Elevators A	4
		Manitoba Pool Elevators B	3
		Manitoba Pool Elevators C	3
<i>Towns</i>			
33 Oak River	10	Manitoba Pool Elevators	4
		United Grain Growers Ltd. 1	2
		United Grain Growers Ltd. 2	4
34 Newdale	18	Manitoba Pool Elevators A	4
		Manitoba Pool Elevators B	4
		Manitoba Pool Elevators C	2
		United Grain Growers Ltd. 1	6
		United Grain Growers Ltd. 2	2
35 Miniota	12	Manitoba Pool Elevators	12
36 Rapid City	13	Manitoba Pool Elevators	7
		National Grain Ltd.	6
37 Strathclair	9	Manitoba Pool Elevators	4
		Pioneer Grain Growers Ltd.	3
		United Grain Growers Ltd.	2
38 Oak Lake	6	Manitoba Pool Elevators A	4
		Manitoba Pool Elevators B	2

(continued)

TABLE 3.13. MAXIMUM NUMBER OF BOXCARS PER SHUNT THAT CAN BE LOADED BY DELIVERY POINT AND ELEVATOR COMPANY, 1969-70 (concluded)

Delivery Point	No. of Cars Per Point	Elevator Company	No. of Cars Per Elevator Company
<i>Greater Towns</i>			
39 Rivers	8	National Grain Ltd.	4
		United Grain Growers Ltd.	4
40 Hamiota	7	Manitoba Pool Elevators A	4
		Manitoba Pool Elevators B	3
41 Birtle	7	Manitoba Pool Elevators	7
42 Shoal Lake	8	United Grain Growers Ltd. 1	6
		United Grain Growers Ltd. 2	2
43 Virden	8	Manitoba Pool Elevators	4
		United Grain Growers Ltd.	4

Source: Canadian Grain Commission.

### Block Loading System for Grain

A new system of issuing orders and allocating boxcars called the Canadian Wheat Board Block Loading System came into effect at the beginning of the 1969-70 crop year. The blocks consist of grain delivery points situated on specified groups of contiguous railway subdivisions, the points of one railway company being kept separate from those of the other railway company.

Improved communication between the Board and the elevator operators enables the Board to know the quantities of each kind and grade of grain available at delivery points in each block. With this information the Board issues shipping orders to the appropriate grain companies. These firms then allocate boxcars to their elevators in the block for loading the particular grains that the Board needs in forward positions.

Table 3.14 lists the delivery points, the loading blocks and the railway subdivisions in the study area.

TABLE 3.14. CANADIAN WHEAT BOARD BLOCK LOADING SYSTEM, 1970-71

Delivery Point	Canadian Wheat Board Loading Block		Railway Company	Railway Sub-division
	Number	Name		
<i>Too Small to Classify</i>				
1 Maples	Closed			
2 Brumlie	7	Brandon North	C.N.	Rapid City
3 Pettapiece	63	Carberry	C.P.	Minota
4 Pitlochry	63	Carberry	C.P.	Minota
5 Smart	5	Winnipeg West	C.N.	Harte
6 Chumah	63	Carberry	C.P.	Minota
7 Floors	63	Carberry	C.P.	Minota
8 Ipswich	63	Carberry	C.P.	Bredenbury
9 Pope	11	Melville	C.N.	Rivers
10 Arrow River	63	Carberry	C.P.	Minota
<i>Hamlets</i>				
11 Bryd	63	Carberry	C.P.	Bredenbury
12 Lavinia	7	Brandon North	C.N.	Rapid City
13 Kelloe	63	Carberry	C.P.	Bredenbury
14 Kemnay	Closed for Storage			
15 Glossop	63	Carberry	C.P.	Bredenbury
16 Moline	7	Brandon North	C.N.	Rapid City
17 McConnell	7	Brandon North	C.N.	Rapid City
18 Oakner	11	Melville	C.N.	Rivers
19 Bradwardine	63	Carberry	C.P.	Lenore
20 Harding	63	Carberry	C.P.	Lenore
21 Isabella	7	Brandon North	C.N.	Rapid City
22 Beulah	7	Brandon North	C.N.	Rapid City
23 Forrest	63	Carberry	C.P.	Minota
24 Griswold	64	Brandon	C.P.	Broadview
<i>Villages</i>				
25 Lenore	63	Carberry	C.P.	Lenore
26 Solsgirth	63	Carberry	C.P.	Bredenbury
27 Crandall	63	Carberry	C.P.	Minota
28 Basswood	63	Carberry	C.P.	Bredenbury
29 Decker	7	Brandon North	C.N.	Rapid City
30 Cardale	7	Brandon North	C.N.	Rapid City
31 Alexander	64	Brandon	C.P.	Broadview
32 Kenton	63	Carberry	C.P.	Lenore
<i>Towns</i>				
33 Oak River	63	Carberry	C.P.	Minota
34 Newdale	63	Carberry	C.P.	Bredenbury
35 Minota	63	Carberry	C.P.	Minota
36 Rapid City	63	Carberry	C.P.	Rapid City
37 Strathclair	63	Carberry	C.P.	Bredenbury
38 Oak Lake	64	Brandon	C.P.	Broadview

(continued)

TABLE 3.14. CANADIAN WHEAT BOARD BLOCK LOADING SYSTEM, 1970-71 (concluded)

Delivery Point	Canadian Wheat Board Loading Block		Railway Company	Railway Sub-division
	Number	Name		
<i>Greater Towns</i>				
39 Rivers	5	Winnipeg West	C.N.	Rivers
40 Hamiota	63	Carberry	C.P.	Minota
41 Birtle	63	Carberry	C.P.	Bredenbury
42 Shoal Lake	63	Carberry	C.P.	Bredenbury
43 Virden	64	Brandon	C.P.	Broadview

Source: Canadian Grain Commission.

### Farm to Elevator Hauling Distances

Tributary areas supplying grain to delivery points for the crop years 1962-63 and 1969-70 are shown in Figures 4.1 and 4.2. As recorded in individual Canadian Wheat Board permit books, each quarter section was plotted to produce a graphic portrayal of the relative sizes and shapes of hinterlands. Unimproved farmland is, of course, included by this method of presentation. Crown land, wasteland, bodies of water and farmland tributary to delivery points outside the study area are excluded.

Table 3.15 shows farm to elevator grain hauling distances for 1969-70. In a sense, the average hauling distance is also a measure of the geographic size of a hinterland as additional acres generally increase the hauling distance. The data were derived from the 1969-70 hinterland map, Figure 4.2, by measuring the grid distance between the delivery point and the midpoint of each section block. The delivery point was always taken to be located at one corner of a section resulting in a minimum distance of 1.0 mile, all subsequent distances being 1.0 plus 1.0, 2.0 or 3.0 miles, etc., to the furthest boundary of the hinterland. If a natural barrier such as a river bisects the study area allowance is made for the extra hauling distance producers must travel via available roads.

The average distance of each quarter section from its delivery point was calculated as follows: the distance of each section, as derived above, was weighted or multiplied by the relevant<sup>1</sup> number of quarter sections within that section, the products of these calculations being accumulated and their sum divided by the total number of quarter sections in the hinterland. One might say that the result is the average distance each section is from the delivery point weighted by the number of relevant quarter sections.

<sup>1</sup> A "relevant" quarter section was both recorded in some farmer's delivery permit book and contained in the hinterland of the delivery point in question.

As an estimate of farm to elevator hauling distances, this method may be criticized for not taking into account the actual locations of on-farm grain storage facilities as well as most of the existing network of roads. Such criticism may not be too serious, however, since grain is usually hauled from the field to the farm for storage, being taken to the country elevator at a later date. In effect, therefore, the hauling activity originates from each quarter section. It is difficult to estimate the magnitude of the error introduced by ignoring some roads, but it will be greater for a hinterland with a few roads than for a hinterland with a good network of roads. To the extent that error is introduced by ignoring roads, the method used underestimates hauling distances.

The average hauling distance in the study area in 1969-70 was 5.23 miles. The highest maximum distance was 26 miles at Solsgirth and the lowest maximum distance was 5 miles at Chumah. Virden had the highest average hauling distance, 8.10 miles.

TABLE 3.15. FARM TO ELEVATOR HAULING DISTANCE BY DELIVERY POINT, 1969-70

Delivery Point	1969-70	
	Maximum'	Average
— miles —		
<i>Too Small to Classify</i>		
1 Maples	Closed	
2 Brumlie	See Cardale	
3 Pettapiece	9.	3.11
4 Pitlochry	6.	2.88
5 Smart	See Forrest	
6 Chumah	5.	2.57
7 Floors	7.	2.99
8 Ipswich	9.	4.02
9 Pope	10.	3.69
10 Arrow River	20.	4.99
<i>Hamlets</i>		
11 Bryd	11.	4.97
12 Lavinia	9.	3.40
13 Kelloe	12.	4.42
14 Kemnay	Closed	
15 Glossop	10.	4.02
16 Moline	14.	3.65
17 McConnell	17.	4.11
18 Oakner	17.	3.48
19 Bradwardine	10.	4.71
20 Harding	7.	3.47
21 Isabella	9.	4.45
22 Beulah	9.	4.21
23 Forrest	16.	4.86
24 Griswold	18.	6.46

(continued)

TABLE 3.15. FARM TO ELEVATOR HAULING DISTANCE BY DELIVERY POINT, 1969-70 (concluded)

Delivery Point	1969-70	
	Maximum <sup>1</sup>	Average
— miles —		
<i>Villages</i>		
25 Lenore	13.	5.55
26 Solsgirth	26.	6.40
27 Crandall	12.	4.51
28 Basswood	24.	5.46
29 Decker	16.	4.13
30 Cardale	8.	3.98
31 Alexander	11.	5.00
32 Kenton	13.	4.97
<i>Towns</i>		
33 Oak River	9.	4.29
34 Newdale	12.	5.10
35 Miniota	12.	5.11
36 Rapid City	15.	5.15
37 Strathclair	13.	5.39
38 Oak Lake	16.	6.74
<i>Greater Towns</i>		
39 Rivers	17.	6.56
40 Hamiota	18.	4.46
41 Birtle	15.	6.04
42 Shoal Lake	22.	5.43
43 Virden	19.	8.10
Study Area Total	26.	5.23

<sup>1</sup>The minimum distance in all cases was assumed to be 1 mile; thus the range in distance for each hinterland is the maximum minus 1 mile.

## PART IV

### A SUGGESTED ALTERNATIVE GRAIN COLLECTION SYSTEM

Community characteristics, grain production characteristics, and grain marketing and handling characteristics of the study area have been covered in the first three parts of this report. Part IV endeavors to show what changes may take place if some delivery points are closed. The proposed alternative system has no official status. It is neither a set of recommendations nor a set of final adjustments that will in fact occur. The authors have scanned the delivery points and selected for closure those they think least likely to survive judging by the traffic density of the rail line serving them, the number of delivery permits issued for them, and the distance from them to other points that will likely remain in operation. Some consideration has been given to the wishes of the railway and elevator companies. Applications that have been filed with the Canadian Transport Commission for permission to abandon lines were used to gauge what the railway companies wanted. Records of the volume of grain receipts per year put through delivery points were considered to be evidence of what the elevator companies wanted. Figure 4.3 shows the hinterlands of grain delivery points assumed remaining open. This map is only intended to be an approximation of what the future may have in store for farmers in the Virden region.

For purposes of this study nineteen delivery points were hypothetically closed, nineteen delivery points remained open and hypothetically increased the sizes of their hinterlands, and one community was unaffected by the suggested changes (Table 4.1). Two delivery points closed on their own, Maples in 1964 and Kemnay in 1968 and two points were double delivery points, Cardale-Brumlie and Forrest-Smart.

The authors have also taken the liberty of hypothetically moving the elevator on the CP line at Miniota one mile to Miniota Station which is on the CN line. This allows Miniota to remain open even though the CP line is hypothetically closed in this study.

Figure 4.3 was derived from 1969-70 hinterlands by diverting each quarter section from those points assumed to be closed to alternate points assumed to be open. Although an element of subjective judgement was involved, the following criteria served as guides in the selection of alternate delivery points: (1) shortest hauling distances; (2) road conditions; and (3) size of community and number of services at alternate points. These criteria are listed in order of importance, but in some instances the second criterion took precedence over the first. Only minor importance was given to the third criterion.

TABLE 4.1. STATUS OF DELIVERY POINTS AFTER DIVERSION, 1969-70

Points Assumed Closed	Points Remaining Open	
	Affected by Diversion	Unaffected by Diversion
3 Pettapiece	8 Ipswich	23 Forrest – 5 Smart
4 Pitlochry	9 Pope	
6 Chumah	11 Bryd	
7 Floors	13 Kellow	
10 Arrow River	15 Glossop	
12 Lavinia	18 Oakner	
16 Moline	24 Griswold	
17 McConnell	26 Solsgirth	
19 Bradwardine	28 Basswood	
20 Harding	31 Alexander	
21 Isabella	34 Newdale	
22 Beulah	35 Miniota	
25 Lenore	36 Rapid City	
27 Crandall	37 Strathclair	
29 Decker	38 Oak Lake	
30 Cardale – 2 Brumlie	39 Rivers	
32 Kenton	41 Birtle	
33 Oak River	42 Shoal Lake	
40 Hamiota	43 Virden	

1 Maples and 14 Kemnay were closed prior to 1969-70.

#### Probable Diversions to Alternate Delivery Points from Delivery Points Assumed Closed

Table 4.2, the "loss" aspect of diversion, and Table 4.3, the "gain" aspect of diversion, show the probable changes in acreages and bushels that would occur should the specified points be closed. In Table 4.2 the percentage distribution figures were determined on the basis of the number of quarter sections diverted to each alternate delivery point. For example: 48.4 percent of the total number of quarter sections in the hinterland of Pettapiece were diverted to Rapid City, 46.9 percent were diverted to Rivers and 4.7 percent were diverted to Newdale. Of the 10,080 acres of farmland at Pettapiece in 1969-70, 4,879 acres were transferred to Rapid City, 4,727 acres were transferred to Rivers and 474 acres were transferred to Newdale. Altogether 536,662 acres (37.1 percent) of the 1.4 million acres in the study area, were transferred from points assumed to be closed to points remaining open.

Bushel diversion estimates were also made on the basis of the quarter section percentage distribution. Of the 81,500 bushels of grain received at Pettapiece in 1969-70, it was assumed that 39,500 bushels, 48.4 percent, would go to Rapid City,

that 38,200 bushels, 46.9 percent, would go to Rivers and that 3,800 bushels, 4.7 percent, would go to Newdale. Because annual receipts fluctuate considerably, bushel diversions based on the ten-year average of the crop years from 1960-61 to 1969-70 have been calculated in the same manner. If the specified delivery points in Table 4.2 had been closed in 1969-70, there would have been an estimated diversion of 3,783,700 bushels on the one-year basis compared with an estimated diversion of 3,624,000 bushels on the ten-year average basis. In this table the delivery points assumed closed are listed in ascending order according to the bushels assumed diverted, basis 1969-70.

In Table 4.3 the acreage and bushel amounts diverted to each point assumed to remain open, were taken from Table 4.2. The "percent diverted" data were computed from the figures on acreage diversion. In this table as in the previous table, delivery points are listed in ascending order on the basis of 1969-70 receipts. Basswood gained the least bushelage, 10,100; whereas Oakner gained the most bushelage, 967,500.

TABLE 4.2. DIVERSION (FROM-TO) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70

From Closed Point To Diversion Point	Percent Diverted	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
From: 6 Chumah				
To: 9 Pope	100.0	5,877	40.1	51.3
From: 4 Pitlochry				
To: 18 Oakner	100.0	9,253	65.3	65.0
From: 3 Pettapiece				
To: 34 Newdale	4.7	474	3.8	3.8
39 Rivers	46.9	4,727	38.2	38.4
36 Rapid City	48.4	4,879	39.5	39.6
Total	100.0	10,080	81.5	81.8
From: 10 Arrow River				
To: 26 Solsgirth	2.7	470	2.3	1.8
13 Kelloe	3.6	627	3.1	2.4
9 Pope	39.7	6,912	34.5	26.5
35 Miniota	54.0	9,402	46.9	36.0
Total	100.0	17,411	86.8	66.7
From: 20 Harding				
To: 38 Oak Lake	3.5	496	3.1	3.6
24 Griswold	12.1	1,713	10.8	12.4
18 Oakner	84.4	11,951	75.2	86.7
Total	100.0	14,160	89.1	102.7

(continued)

TABLE 4.2. DIVERSION (FROM-TO) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70 (continued)

From Closed Point To Diversion Point	Percent Diverted	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
From: 7 Floors				
To: 18 Oakner	2.4	323	2.7	2.3
15 Glossop	3.6	485	4.1	3.5
39 Rivers	94.0	12,664	106.0	91.3
Total	100.0	13,472	112.8	97.1
From: 16 Moline				
To: 15 Glossop	2.5	640	4.0	3.8
28 Basswood	6.4	1,600	10.1	9.6
39 Rivers	24.5	6,160	39.0	36.9
34 Newdale	28.0	7,029	44.5	42.2
36 Rapid City	38.6	9,712	61.5	58.2
Total	100.0	25,141	159.1	150.7
From: 12 Lavinia				
To: 13 Kelloe	6.3	1,332	10.5	11.4
18 Oakner	7.8	1,650	13.1	14.1
11 Bryd	25.8	5,456	43.2	46.5
42 Shoal Lake	30.0	6,344	50.2	54.0
9 Pope	30.1	6,365	50.3	54.2
Total	100.0	21,147	167.3	180.2
From: 22 Beulah				
To: 41 Birtle	23.3	9,478	42.6	48.4
35 Miniota	76.7	31,202	139.8	159.2
Total	100.0	40,680	182.4	207.6
From: 19 Bradwardine				
To: 31 Alexander	10.9	3,262	20.2	20.8
24 Griswold	23.3	6,973	42.9	44.4
18 Oakner	23.7	7,092	43.8	45.2
39 Rivers	42.1	12,598	77.8	80.2
Total	100.0	29,925	184.7	190.6
From: 27 Crandall				
To: 18 Oakner	1.3	390	2.5	2.6
35 Miniota	8.3	2,494	15.8	16.7
9 Pope	90.4	27,159	172.4	182.2
Total	100.0	30,043	190.7	201.5

(continued)

TABLE 4.2. DIVERSION (FROM-TO) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70 (continued)

From Closed Point To Diversion Point	Percent Diverted	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
From: 21 Isabella				
To: 9 Pope	0.9	311	2.0	2.2
13 Kelloe	6.9	2,387	15.3	16.7
41 Birtle	10.0	3,459	22.4	24.2
26 Solsgirth	29.2	10,099	65.1	70.7
35 Miniota	53.0	18,331	118.2	128.2
Total	100.0	34,587	223.0	242.0
From: 32 Kenton				
To: 43 Virden	0.2	87	0.6	0.5
24 Griswold	6.5	2,839	18.1	16.1
9 Pope	6.9	3,014	19.2	17.0
38 Oak Lake	19.8	8,649	55.0	49.0
18 Oakner	66.6	29,091	185.2	164.8
Total	100.0	43,680	278.1	247.4
From: 17 McConnell				
To: 13 Kelloe	1.0	323	3.1	2.6
37 Strathclair	5.4	1,744	15.3	14.0
18 Oakner	17.5	5,653	49.7	45.3
42 Shoal Lake	25.8	8,334	73.3	66.8
8 Ipswich	50.3	16,248	143.0	130.3
Total	100.0	32,302	284.4	259.0
From: 29 Decker				
To: 26 Solsgirth	0.3	97	0.8	0.8
41 Birtle	0.5	161	1.5	1.3
35 Miniota	0.8	258	2.3	2.0
11 Bryd	3.1	998	9.0	8.0
13 Kelloe	44.0	14,168	125.5	113.1
9 Pope	51.3	16,518	146.3	131.9
Total	100.0	32,200	285.4	257.1
From: 30 Cardale-2 Brumlie				
To: 8 Ipswich	1.6	620	4.8	5.0
18 Oakner	1.6	620	4.8	5.0
39 Rivers	5.3	2,053	15.6	16.5
34 Newdale	16.1	6,236	47.9	50.1
37 Strathclair	26.8	10,380	79.6	83.5
15 Glossop	48.6	18,825	144.5	151.4
Total	100.0	38,734	297.2	311.5

(continued)

TABLE 4.2. DIVERSION (FROM-TO) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70 (concluded)

From Closed Point To Diversion Point	Percent Diverted	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
From: 25 Lenore				
To: 38 Oak Lake	4.4	2,678	13.4	11.6
43 Virden	36.4	22,157	110.4	95.8
9 Pope	59.2	36,035	179.4	155.8
Total	100.0	60,870	303.2	263.2
From: 33 Oak River				
To: 37 Strathclair	12.2	4,651	42.6	36.0
39 Rivers	18.5	7,054	64.6	54.7
18 Oakner	69.3	26,422	241.2	204.7
Total	100.0	38,127	348.4	295.4
From: 40 Hamiota				
To: 11 Bryd	0.8	312	3.3	2.8
8 Ipswich	0.8	312	3.3	2.8
42 Shoal Lake	1.0	390	4.2	3.6
9 Pope	27.1	10,561	109.4	95.7
18 Oakner	70.3	27,398	284.0	248.3
Total	100.0	38,973	404.2	353.2
Study Area Total		536,662	3,783.7	3,624.0

TABLE 4.3. DIVERSION (TO-FROM) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70

To Diversion Point From Closed Point	Percent Diverted*	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
To: 28 Basswood				
From: 16 Moline	100.0	1,600	10.1	9.6
To: 31 Alexander				
From: 19 Bradwardine	100.0	3,262	20.2	20.8
To: 11 Bryd				
From: 40 Hamiota	4.6	312	3.3	2.8
29 Decker	14.8	998	9.0	8.0
12 Lavinia	80.6	5,456	43.2	46.5
Total	100.0	6,766	55.5	57.3

(continued)

TABLE 4.3. DIVERSIONS (TO-FROM) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70 (continued)

To Diversion Point From Clased Point	Percent Diverted	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
To: 41 Birtle				
From: 29 Decker	1.2	161	1.5	1.3
21 Isabella	26.4	3,459	22.4	24.2
22 Beulah	72.4	9,478	42.6	48.4
Total	100.0	13,098	66.5	73.9
To: 26 Solsgirth				
From: 29 Decker	0.9	97	0.8	0.8
10 Arrow River	4.4	470	2.3	1.8
21 Isabella	94.7	10,099	65.1	70.7
Total	100.0	10,666	68.2	73.3
To: 38 Oak Lake				
From: 20 Harding	4.2	496	3.1	3.6
25 Lenore	22.6	2,678	13.4	11.6
32 Kenton	73.2	8,649	55.0	49.0
Total	100.0	11,823	71.5	64.2
To: 24 Griswold				
From: 20 Harding	14.9	1,713	10.8	12.4
32 Kenton	24.6	2,839	18.1	16.1
19 Bradwardine	60.5	6,973	42.9	44.4
Total	100.0	11,525	71.8	72.9
To: 34 Newdale				
From: 3 Pettapiece	3.4	474	3.8	3.8
16 Moline	51.2	7,029	44.5	42.2
30 Cardale-2 Brumlie	45.4	6,236	47.9	50.1
Total	100.0	13,739	96.2	96.1
To: 36 Rapid City				
From: 3 Pettapiece	33.4	4,879	39.5	39.6
16 Moline	66.6	9,712	61.5	58.2
Total	100.0	14,591	101.0	97.8
To: 43 Virden				
From: 32 Kenton	0.4	87	0.6	0.5
25 Lenore	99.6	22,157	110.4	95.8
Total	100.0	22,244	111.0	96.3
To: 42 Shoal Lake				
From: 40 Hamiota	2.6	390	4.2	3.6
12 Lavinia	42.1	6,344	50.2	54.0
17 McConnell	55.3	8,334	73.3	66.8
Total	100.0	15,068	127.7	124.4

(continued)

TABLE 4.3. DIVERSION (TO-FROM) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70 (continued)

To Diversion Point From Closed Point	Percent Diverted	Acres Diverted	Bushels Diverted	
			1969-70	10-Yr. Average 1960-61 to 1969-70
— 000's bu. —				
To: 37 Strathclair				
From: 17 McConnell	10.4	1,744	15.3	14.0
33 Oak River	27.7	4,651	42.6	36.0
30 Cardale-2 Brumlie	61.9	10,380	79.6	83.5
Total	100.0	16,775	137.5	133.5
To: 8 Ipswich				
From: 40 Hamiota	1.8	312	3.3	2.8
30 Cardale-2 Brumlie	3.6	620	4.8	5.0
17 McConnell	94.6	16,248	143.0	130.3
Total	100.0	17,180	151.1	138.1
To: 15 Glossop				
From: 16 Moline	3.2	640	4.0	3.8
7 Floors	2.4	485	4.1	3.5
30 Cardale-2 Brumlie	94.4	18,825	144.5	151.4
Total	100.0	19,950	152.6	158.7
To: 13 Kelloe				
From: 17 McConnell	1.7	323	3.1	2.6
10 Arrow River	3.3	627	3.1	2.4
12 Lavinia	7.1	1,332	10.5	11.4
21 Isabella	12.7	2,387	15.3	16.7
29 Decker	75.2	14,168	125.5	113.1
Total	100.0	18,837	157.5	146.2
To: 35 Miniota				
From: 29 Decker	0.4	258	2.3	2.0
27 Crandall	4.1	2,494	15.8	16.7
10 Arrow River	15.2	9,402	46.9	36.0
21 Isabella	29.7	18,331	118.2	128.2
22 Beulah	50.6	31,202	139.8	159.2
Total	100.0	61,687	323.0	342.1
To: 39 Rivers				
From: 30 Cardale-2 Brumlie	4.5	2,053	15.6	16.5
3 Pettapiece	10.5	4,727	38.2	38.4
16 Moline	13.6	6,160	39.0	36.9
33 Oak River	15.6	7,054	64.6	54.7
19 Bradwardine	27.8	12,598	77.8	80.2
7 Floors	28.0	12,664	106.0	91.3
Total	100.0	45,256	341.0	318.0

(continued)

TABLE 4.3. DIVERSIONS (TO-FROM) OF ACREAGES AND BUSHELS CONDITIONAL ON THE CLOSING OF SPECIFIED DELIVERY POINTS, BASIS 1969-70 (concluded)

To Diversion Point From Closed Point	Percent Diverted	Acres Diverted	Bushels Diverted			
			1969-70	10-Yr. Average 1960-61 to 1969-70		
— 000's bu. —						
<b>To: 9 Pope</b>						
From: 21 Isabella	0.3	311	2.0	2.2		
32 Kenton	2.7	3,014	19.2	17.0		
10 Arrow River	6.1	6,912	34.5	26.5		
6 Chumah	5.2	5,877	40.1	51.3		
12 Lavinia	5.6	6,365	50.3	54.2		
40 Hamiota	9.4	10,561	109.4	95.7		
29 Decker	14.6	16,518	146.3	131.9		
27 Crandall	24.1	27,159	172.4	182.2		
25 Lenore	32.0	36,035	179.4	155.8		
Total	100.0	112,752	753.6	716.8		
<b>To: 18 Oakner</b>						
From: 27 Crandall	0.3	390	2.5	2.6		
7 Floors	0.3	323	2.7	2.3		
30 Cardale-2 Brumlie	0.5	620	4.8	5.0		
12 Lavinia	1.4	1,650	13.1	14.1		
19 Bradwardine	5.9	7,092	43.8	45.2		
17 McConnell	4.7	5,653	49.7	45.3		
4 Pitlochry	7.7	9,253	65.3	65.0		
20 Harding	10.0	11,951	75.2	86.7		
32 Kenton	24.3	29,091	185.2	164.8		
33 Oak River	22.0	26,422	241.2	204.7		
40 Hamiota	22.9	27,398	284.0	248.3		
Total	100.0	119,843	967.5	884.0		
<b>Study Area Total</b>		<b>536,662</b>	<b>3,783.7</b>	<b>3,624.0</b>		

### Throughput Ratio

Upon rationalizing the grain delivery point system in the study area by assuming nineteen delivery points closed total storage capacity would be reduced by 1.6 million bushels. Assuming further, that no new storage space is constructed, throughput ratios were calculated. Table 4.4 shows the actual and hypothetical ratios for 1969-70 crop year as well as a ten-year average ratio based on the crop years from 1960-61 to 1969-70 for the communities gaining diverted acreage. Throughput ratios increased in all delivery points listed and the majority were around 3.0<sup>1</sup> ratio which is generally considered the point where an elevator pays for itself.

<sup>1</sup> D. Zasada, "The Probable Effects of the Application for Railway Branch Line Abandonment on the Grain Elevator Industry", *Canadian Farm Economics*, April, 1968, page 21.

One might speculate that an economically optimum throughput ratio is in the neighbourhood of 10.0<sup>2</sup>. On this basis only Pope and Oakner may have a problem in handling the additional throughput. Pope has a hypothetical throughput of 17.06 and Oakner 46.15. Additional plant would undoubtedly be necessary in these communities especially in Oakner.

TABLE 4.4. THROUGHPUT RATIOS BY DELIVERY POINT BEFORE AND AFTER DIVERSION,  
BASIS 1969-70 AND PREVIOUS TEN-YEAR AVERAGE

Delivery Point	Before Diversion		After Diversion	
	Actual 1969-70	Ten-Year Average 1960-61 to 1969-70	1969-70	Ten-Year Average 1960-61 to 1969-70
28 Basswood	3.22	3.13	3.32	3.22
31 Alexander	1.82	1.87	1.92	1.98
11 Bryd	1.71	1.54	2.47	2.33
41 Birtle	2.93	2.71	3.47	3.31
26 Solsgirth	2.68	2.35	3.10	2.80
38 Oak Lake	2.24	2.39	2.92	3.00
24 Griswold	2.08	1.90	2.55	2.37
34 Newdale	1.42	1.59	1.79	1.96
36 Rapid City	2.36	2.72	3.16	3.50
43 Virden	3.40	1.90	4.14	2.54
42 Shoal Lake	1.78	2.02	2.84	3.06
37 Strathclair	1.37	1.42	2.11	2.13
8 Ipswich	1.10	1.41	2.18	2.40
15 Glossop	2.84	2.48	4.26	3.96
13 Kelloe	3.06	3.21	5.93	5.87
35 Miniota	4.64	3.49	10.97	10.20
39 Rivers	2.56	2.27	4.67	4.24
9 Pope	2.84	1.54	17.06	15.07
18 Oakner	5.84	3.37	46.15	40.20
Study Area Total	2.28 <sup>1</sup>	2.14 <sup>1</sup>	3.91	3.65

<sup>1</sup> Average throughput ratio of all points open from Table 3.6.

<sup>2</sup> Speculative reasoning might suggest the following example. Suppose a one-elevator delivery point has a storage capacity of 25,000 bushels. A throughput ratio of 10.0 would require the handling of 250,000 bushels per year. At 2,000 bushels per boxcar the elevator agent would only have to load 125 cars per year or about 2.5 boxcars per week for 50 weeks.

### Size of Hinterlands Before and After Diversion

Table 4.5 provides information on the size of hinterland before and after diversion, basis 1969-70. Obviously, the hinterlands of the 19 diversion points would increase in acreage. Virden had the largest original hinterland of 93,100 acres.

On the basis of these hypothetical changes, Oakner would have the largest hinterland, 136,501 acres, which is an addition of 119,843 acres or a 719.4 percent increase. The range in percentage increases is from 3.2 percent at Basswood to 719.4 percent at Oakner. The 19 communities assumed closed would give up a total of 536,662 acres to be absorbed by the other 19 communities.

TABLE 4.5 SIZE OF HINTERLANDS BEFORE AND AFTER DIVERSION, BASIS 1969-70

Diversion Point	Before Diversion		After Diversion	
	Original Size 1969-70	Acreage Increase	Enlarged Size	Percent Increase
	— acres —	— acres —	— acres —	
28 Basswood	50,077	1,600	51,677	3.2
31 Alexander	47,169	3,262	50,431	6.9
11 Bryd	19,040	6,766	25,806	35.5
41 Birtle	56,479	13,098	69,577	23.2
26 Solsgirth	62,213	10,666	72,879	17.1
38 Oak Lake	68,214	11,823	80,037	17.3
24 Griswold	52,431	11,525	63,956	22.0
34 Newdale	49,817	13,739	63,556	27.6
36 Rapid City	51,004	14,591	65,595	28.6
43 Virden	93,100	22,244	115,344	23.9
42 Shoal Lake	36,822	15,068	51,890	40.9
37 Strathclair	32,196	16,775	48,971	52.1
8 Ipswich	23,780	17,180	40,960	72.2
15 Glossop	29,983	19,950	49,933	66.5
13 Kelloe	28,231	18,837	47,068	66.7
35 Miniota	54,577	61,687	116,264	113.0
39 Rivers	68,027	45,256	113,283	66.5
9 Pope	20,034	112,752	132,786	562.8
18 Oakner	16,658	119,843	136,501	719.4
Study Area Total	859,852 <sup>1</sup>	536,662	1,396,514	62.4

<sup>1</sup>Total acres of the 19 diversion points shown.

### Farm to Elevator Hauling Distances Before and After Diversion

Table 4.6 presents a comparison of maximum and average hauling distances before and after diversion for both points assumed to be closed and points assumed to remain open. The changes in average mileages due to diversion are also shown.

Before diversion the shortest average hauling distance was 2.57 miles at Chumah and the longest average hauling distance was 8.10 miles at Virden. After diversion, hauling distances increased considerably for all points assumed to be closed. The greatest jump occurred at Lavinia where the mileage rose from 3.40 miles to 11.50 miles, an increase of 8.10 miles. The average hauling distance for all points assumed closed increased by 5.37 miles.

With the reallocation of land from the points assumed closed to the points remaining open, the average lengths of haul in the hinterlands of the open points also increased. Nine open points had a change of less than a mile and only two points had a change of more than four miles. The maximum hauling distance in the study area, 26 miles at Solsgirth, was not affected by diversion.

TABLE 4.6. FARM TO ELEVATOR HAULING DISTANCES BEFORE AND AFTER DIVERSION,  
BASIS 1969-70

Delivery Point	Before Diversion		After Diversion		Change in Average Haul	
	Maximum Haul	Average Haul	Maximum Haul	Average Haul		
— miles —						
<i>Points Assumed Closed</i>						
6 Chumah	5	2.57	10	5.79	3.22	
4 Pitlochry	6	2.88	10	6.78	3.90	
3 Pettapiece	9	3.11	12	6.81	3.70	
10 Arrow River	20	4.99	14	7.75	2.76	
20 Harding	7	3.47	14	9.87	6.40	
7 Floors	7	2.99	13	9.15	6.16	
16 Moline	14	3.65	13	9.53	5.88	
12 Lavinia	9	3.40	14	11.50	8.10	
22 Beulah	9	4.21	15	8.70	4.49	
19 Bradwardine	10	4.71	14	11.24	6.53	
27 Crandall	12	4.51	11	6.65	2.14	
21 Isabella	9	4.45	16	11.97	7.52	
32 Kenton	13	4.97	14	9.23	4.26	
17 McConnell	17	4.11	14	10.75	6.64	
29 Decker	16	4.13	16	11.66	7.53	
30 Cardale-2 Brumlie	8	3.98	15	10.45	6.47	
25 Lenore	13	5.55	14	10.07	4.52	
33 Oak River	9	4.29	15	10.70	6.41	
40 Hamiota	18	4.46	13	8.41	3.95	
Total	20	4.35	16	9.72	5.37	

(continued)

TABLE 4.6. FARM TO ELEVATOR HAULING DISTANCES BEFORE AND AFTER DIVERSION  
BASIS 1969-70 (concluded)

Delivery Point	Before Diversion		After Diversion		Change in Average Haul	
	Maximum Haul	Average Haul	Maximum Haul	Average Haul		
— miles —						
<i>Points Remaining Open</i>						
28 Basswood	24	5.46	24	5.59	0.13	
31 Alexander	11	5.00	12	5.35	0.35	
11 Bryd	11	4.97	12	6.27	1.30	
41 Birtle	15	6.04	15	6.76	0.72	
26 Solsgirth	26	6.40	26	7.31	0.91	
38 Oak Lake	16	6.74	16	7.35	0.61	
24 Griswold	18	6.46	18	7.42	0.96	
34 Newdale	12	5.10	12	5.98	0.88	
36 Rapid City	15	5.15	15	5.82	0.67	
43 Virden	19	8.10	19	8.49	0.39	
42 Shoal Lake	22	5.43	22	6.75	1.32	
37 Strathclair	13	5.39	15	7.60	2.21	
8 Ipswich	14	4.02	14	6.65	2.63	
15 Glossop	10	4.02	15	6.58	2.56	
13 Kelloe	12	4.42	16	7.56	3.14	
35 Miniota	12	5.11	16	7.14	2.03	
39 Rivers	17	6.56	17	7.93	1.37	
9 Pope	10	3.69	16	7.97	4.28	
18 Oakner	17	3.48	17	8.18	4.70	
Total	26	5.80	26	7.24	1.44	

#### Number of Permit Holders Before and After Diversion

If the alternative grain collection system assumed in this report materialized, there would be adjustments in the number of permit holders at the delivery points affected. Based on the number of permits issued in 1969-70, estimates have been made of the probable number of permits at points remaining open after diversion (Table 4.7), these estimates being derived from the percentage distribution values of Table 4.2 in the same manner as estimates for acreage and bushelage diversion. It has been supposed that no reduction in the number of producers will result from rationalization.

A total of 931 permit holders, 38.0 percent of the 2,449 permit holders in the study area, would find it necessary to choose an alternate delivery point. Oakner would make the greatest gain with the number of permit holders rising from 26 before diversion to 256 after diversion, a gain of 230. Diversion would increase the number of permit holders by nearly seven times the number prior to diversion at Pope, 32 to 217, and by more than double at Miniota.

TABLE 4.7. NUMBER OF PERMIT HOLDERS BY DELIVERY POINT BEFORE AND AFTER DIVERSION, BASIS 1969-70

Delivery Point	Number of Permit Holders	
	Before Diversion	After Diversion
<i>Points Assumed Closed</i>		
6 Chumah	14	0
4 Pitlochry	21	0
3 Pettapiece	18	0
10 Arrow River	32	0
20 Harding	30	0
7 Floors	23	0
16 Moline	49	0
12 Lavinia	38	0
22 Beulah	66	0
19 Bradwardine	48	0
27 Crandall	48	0
21 Isabella	67	0
32 Kenton	86	0
17 McConnell	56	0
29 Decker	50	0
30 Cardale - 2 Brumlie	58	0
25 Lenore	85	0
33 Oak River	66	0
'40 Hamiota	76	0
<i>Points Remaining Open</i>		
23 Forrest - 5 Smart	98	98
28 Basswood	96	99
31 Alexander	77	82
11 Bryd	31	44
41 Birtle	88	110
26 Solsgirth	107	127
38 Oak Lake	99	121
24 Griswold	90	111
34 Newdale	88	112
36 Rapid City	104	132
43 Virden	120	151
42 Shoal Lake	63	89
37 Strathclair	63	90
8 Ipswich	46	76
15 Glossop	50	80
13 Kelloe	48	79
35 Miniota	84	191
39 Rivers	108	184
9 Pope	32	217
18 Oakner	26	256
Study Area Total	2,449	2,449

## PART V

### REGULATION OF GRAIN INDUSTRY

#### Regulation of the Grain Industry

The unfairness inherent in a situation involving a large number of sellers facing a very few buyers, which is what prevails in prairie grain marketing, led to the very high degree of regulation that characterizes the industry today. This takes the form of regulation of the grain warehouse industry, i.e., the elevators, by the Canadian Grain Commission; regulation of the grain marketers, including the producers, by the Canadian Wheat Board; and regulation of the grain carriers; i.e., railways, truckers, and lake vessel operators, by those two bodies plus the Canadian Transport Commission.

The following description of the activity of these regulatory bodies is not intended to be exhaustive by any means. It covers the main areas of the impact of regulation on producers, elevator operators and railways. It is included here in order to complete the picture shown in these Prairie Regional Studies in Economic Geography, because it is believed that the welfare of the farms and the communities is significantly influenced by regulation.

#### Canada Grain Act, R.S.C. 1970 Ch. G-16

The Canadian Grain Commission superseded the Board of Grain Commissioners for Canada on April 1, 1971, by virtue of an amended Canadian Grain Act passed by the Federal Parliament in 1970. Among several important changes in the Act is the definition of an elevator, (Section 2). For licensing purposes it is no longer required that the elevator be situated on a railway right-of-way. Any premises that meet certain construction standards specified by the Commission and where bulk grain can be received, weighed, elevated, stored and discharged into a transport conveyance qualified for application for a licence to handle western grain.

The once familiar term "country elevator" has been changed to "primary elevator", for regulation purposes. It is defined as "an elevator the principal use of which is the receiving of grain directly from producers".

The costs of the Canadian Grain Commission are borne by the Federal Treasury, not by the farmers. The commissioners and their staff are public servants.

The Commission establishes and maintains standards of quality for Canadian grain, in the interests of the grain producers.

Any dispute between the grain producer and grain buyer as to grade or dockage is settled by referring a small sample of the parcel of grain to the Canadian Grain Commission. As far as weighing goes, the elevator operator must allow the farmer every opportunity to verify the weight of his grain.

The Commission may consent to the mixing of different grades of grain in terminal and transfer elevators. Without such consent no such mixing is permitted. The Commission periodically checks the inventory of grain in each and all elevators.

Only a public carrier may transport grain described by an official grade name across a provincial boundary. Only a public carrier may transport any grain from Western Canada to Eastern Canada or out of Canada. On the other hand a public carrier may not deliver grain to a primary elevator without the consent of the Canadian Grain Commission.

Grain producers who qualify to ship a complete carload of grain to a terminal or a transfer elevator may have a rail car allocated to them for this purpose by the Canadian Grain Commission. Where it is the public interest to do so the federal cabinet can order a railway company to spot cars for transporting grain at any point where the railway company supplies service. In such cases it is the grain producer's right to select the elevator of his choice or to load directly into the rail car.

The car order book is no longer used as the legal instrument to ensure equity in rail car supply.

The Canadian Grain Commission can issue regulations governing the activity in all the licensed elevators in order to ensure the orderly movement of grain.

The Canadian Grain Commission can set maximum freight rates for the carriage of Canadian grain by lake vessel between any Canadian points. This responsibility is given to the Commission under the Inland Water Freight Rates Act.

### **The Canadian Wheat Board Act R.S.C. 1970 - Ch. C-12**

The Canadian Wheat Board was created in the mid-depression year of 1935 when the prairie wheat pools and the prairie provincial governments, who had guaranteed the pools' bank loans, proved to be incapable of surviving the tremendous pressures caused by a great scarcity of sales all over the world, together with below-cost prices for the wheat that was sold. Today the Canadian Wheat Board plays a dominant role in the marketing of grain in Western Canada. The Board has an indirect impact on the production of virtually all crops in the prairie provinces.

The Board consists of five commissioners appointed by the federal cabinet. It employs 575 support staff. Board members and staff receive their salaries and wages out of the proceeds from the sale of the farmers' grain. Indeed all the costs of the operation of the Canadian Wheat Board are borne by the grain producers

collectively. Some assistance is received by them from the federal treasury to cover part of the cost of storing wheat in commercial positions, i.e., off the farm. (See note on the Temporary Wheat Reserves Act.)

The Canadian Wheat Board has permanent offices in Winnipeg, Vancouver, Montreal, London England, and Tokyo. The Board uses the established grain export companies as their selling arm, on an agency basis. They have 25 firms which act as their shippers and exporters via the Lakehead and eastern route, and 17 firms via the Pacific Coast ports.

The Canadian Wheat Board has no assets of its own. It has no funds. It retains no profits. The money to pay for the wheat, durum, oats, and barley delivered by the producers is obtained by borrowing from the chartered banks. The cost of this money is borne by the producers. Nor does the Board own or operate grain handling, storage or transportation facilities. It contracts with the licensed primary elevator operators to act as buying and forwarding agents.

The object of the Board is to market grain in an orderly manner. Their marketing function is limited to interprovincial and export trade. Grain marketed intra-provincially does not come under the Wheat Board's jurisdiction, although it does extend to all elevators, flour mills, feed mills, feed warehouses and seed cleaning mills.

Cabinet appoints an eleven-member Advisory Committee, of which at least six members represent wheat producers.

Cabinet has the authority to direct the Board as to the manner in which it is to conduct its operations, but in practice the Board has operated with a great deal of autonomy.

Elevators are operated for and on behalf of the Board. Only Board agents may operate an elevator, unless the Board excepts that elevator from the provisions of the Canadian Wheat Board Act.

The Wheat Board has the authority to limit individual producers' deliveries of grain. This is accomplished in a routine fashion by the issuing of permit books and by the fixing of delivery quotas at specified delivery points, together with some special delivery quotas for selected grain.

Only the producer of the grain is permitted to deliver grain to an elevator. (Producer includes the actual producer and any person entitled as the landlord, vendor or mortgagee to the grain.)

Bonafide grain producers are entitled to have a permit book issued to them by the Board. The actual producer of the grain has the prior right to possession of the permit book. Only one permit book may be issued per farm unit. Where there are two or more producers entitled to the grain from a farm unit, none can deliver in excess of his proper share of the delivery quota.

Only producers who are permit book holders may deliver grain to a licensed elevator and then only to one of the two delivery points named in the individual's permit book. Normally the producer chooses the delivery point, but the Wheat Board does have the authority to prescribe the delivery point.

The quantity of grain delivered must not exceed the quota established at the time of delivery for the kind of grain being delivered and for the point stipulated. A record of all deliveries must be entered in the permit book.

Provided all the Board's orders and regulations have been complied with, the Board must buy all the wheat, durum, oats, and barley offered by bonafide producers. The Board must pay the appropriate initial payment on delivery. Normally this is done by the elevator operator, acting on behalf of the Board. He is recompensed for all his costs when the grain is delivered to the Board at a terminal or mill elevator.

A record of the grain delivered and the payment is entered into an accounting pool, along with all the other grain of like kind and grade delivered in the same crop year. Each producer participating in the pool shares in the equitable distribution of the pool surplus. The accounting pool period coincides with the crop year.

Only grain that has been taken into an elevator in accordance with the Wheat Board's orders and regulations may be loaded into a railway car.

The Wheat Board has the authority to order grain, by grade, to be loaded out of any elevator into railway cars or lake vessels. Thus grain is shipped out of the primary country elevators according to the shipping orders issued by the Board to its agents, the elevator operators. The Board also has the authority to prohibit the movement of any kind of grain out of an elevator. The Board can allocate railway cars to specific persons or elevators at specific delivery points. However, in the normal course of events it refrains from becoming so specific, preferring to allocate shipping orders and cars en masse to its agents for movement out of elevators situated on specified loading blocks.

Nowadays only the grain that is produced in the "designated area" comes under the jurisdiction of the Canadian Wheat Board. This is most of the grain produced in Canada, of course. The designated area comprises all of Manitoba, Saskatchewan and Alberta plus the Peace River Block and the Creston-Wynndel areas, both in British Columbia, and a small area in the Rainy River region of Ontario near the Manitoba border.

After the Wheat Board has received payment for the wheat, durum, oats and barley delivered to the Board's respective pools, a distribution of the balance remaining in the accounts after deduction of all charges against the grains is made in the form of a final payment. This cheque is mailed to the producers from the Board six to nine months after the pool has been closed for deliveries at the end of the crop year. The amount per bushel of the final payment depends on the grade of the grain, and on the prices obtained by the Board.

The Canadian Wheat Board has the authority to prohibit the export from or import into Canada of any wheat, durum, oats, barley or the products thereof. Likewise it can prohibit the transport of these grains from one province in Canada to another. Indeed, only the Board is permitted to contract these grains for sale anywhere other than the province of origin of the grain. The Board may grant licences for the export or import of wheat, durum, oats or barley, as well as for the transport of these grains across provincial boundaries.

### **Temporary Wheat Reserves Act**

This Act was passed by the federal parliament in 1956. As explained by the Minister of Trade and Commerce at the time, it was in lieu of a two-price system.

The legislation gave the federal government the responsibility for payment of both the storage and the bank interest costs for 365 days on those Canadian Wheat Board holdings of wheat and durum in excess of 178 million bushels that happen to be in commercial (i.e., off-farm) storage at opening of business on the first day of each crop year, i.e., August 1. The rates paid per bushel are those prevailing on the last day of the previous crop year, i.e. July 31.

The purpose of the Act is to relieve the Canadian Wheat Board, and thus the western wheat producers, from the burden of paying the carrying costs on abnormally large stocks of wheat and durum. Without the Act the Wheat Board might be forced into panic methods of disposing of this grain, in violation of their duty to market wheat in an orderly manner.

The federal treasury makes monthly payments to the Canadian Wheat Board of one-twelfth of the amount of the carrying charges on the excess stocks. This total is prorated in the accounting pools and is eventually paid out to the producers as part of the final payment.

If at the beginning of a crop year the Board's stocks of wheat and durum are not more than 178 million bushels, then no more payments are to be made for that or any subsequent crop year. In other words the Temporary Wheat Reserves Act would be null and void. Thus, to that extent, the act is a temporary one.

### **National Transportation Act R.S.C. 1970 Ch. N-17**

The National Transportation Act became law in 1967 with the declared credo that "an economic and efficient transportation system, making the best use of all available modes of transportation at the lowest total cost, is essential to protect the interests of the users of transportation and to maintain the economic well-being and growth of Canada ...".

The Act established the Canadian Transport Commission and dissolved the Board of Transport Commissioners for Canada. Under the new Commission several committees were established. The one that has an impact on grain production and marketing in Western Canada is known as the Railway Committee. There are seventeen commissioners, five of whom serve on this latter committee.

The commissioners are appointed by the federal cabinet. They and their staff are government employees, and their salaries are paid for by the federal treasury.

The commission administers the Railway Act. It has the authority to regulate and licence any mode of transport in Canada, including control over rates and tariffs charged and the administering of transport subsidies voted by Parliament.

Any person may apply to the commission for permission to appeal a rate set by a carrier, if he believes that the effect of the rate would be prejudicial to the public interest. If, following a hearing, the commission concurs, it may make an order requiring the carrier to remove the prejudicial feature of the rate. At such a hearing representatives of provincial or municipal governments and of shippers or consignees are entitled to appear.

The greatest impact of the National Transportation Act on the grain production and marketing system stems from the provisions covering the abandonment of uneconomic branch lines. Branch line includes all subsidiary, secondary, local or feeder lines of railway. Segments of branch lines may also be applied for.

The commission sets the rules governing the filing of abandonment applications and the determination of whether or not the branch line in the application is indeed eligible for abandonment on economic grounds.

The commission holds public hearings on the question of abandonment of the branch line to hear all persons who wish to present their views. On the basis of the application and the hearing, the commission determines whether or not the branch line is uneconomic, is likely to continue to be uneconomic and whether the line should be closed down or remain open. Only lines that have incurred an actual operating loss in the last accounting year may be given permission to cease operating.

A hearing can cover several applications at the same time if the branch lines in question are in the same or adjoining areas. The commission has the authority to determine the order in which applications may be considered, although it may request the submitting railway company to specify its preferred order.

In determining whether or not a branch line may be abandoned, the commission considers, among other factors, the public interest; the actual losses incurred; the alternative transportation facilities; the adjustment period required; the disruption to the economy of the communities and the area; the effect on other lines and other carriers; the feasibility of maintaining the line or any part of it by, a) changing the

method of operation, b) inter-connecting with another line, c) sale or lease of the line or part of it to another railway company, d) exchanging running rights, e) constructing connecting lines with lines of another company; the known or potential resources of the area; the seasonal restrictions on other forms of transport; and the future transportation needs of the areas.

When the commission decides that a branch line or segment ought to be abandoned, it sets a closing date between one month and five years following the date of the abandonment order. The railway company must cease its operation of that line on the specified date.

When the commission is not satisfied that the line ought to be abandoned it orders the railway to continue its operation but reconsiders the abandonment application periodically in the light of new conditions that may emerge.

The commission may recommend to the railway companies the rationalization of their lines through the exchange of branch lines between companies, through the exchange of running rights on other lines and through the connecting of lines of rival companies, even though no application for abandonment has been filed on the lines in question. The commission may also recommend to the rail companies that applications for abandonment of branch lines be filed.

Where the commission has determined that a branch line is indeed uneconomic but the line continues to operate, the railway company is entitled to claim for the actual loss accruing to that line in each fiscal year. The commission in such cases must examine the figures in the claim and recommend to the Minister of Finance that the rail company in question be paid the verified amount of the loss.

Cabinet may designate specific branch lines that are not permitted to be abandoned during set periods. This was done for the so-called protected lines that may not be closed before January 1, 1975. If losses are incurred in the operation of such lines the rail company may claim for the losses, even though no application has been filed. The claim may be paid, on the recommendation of the commission.

The National Transportation Act again makes statutory the rail freight rates on grain set by the "Act to Authorize a Subsidy for a Railroad through the Crows Nest Pass" S.C. 1897 c.5. For the first time it makes statutory the rail freight rates on grain moving from paririe points to the Pacific Coast ports and Churchill, for export, at the levels prevailing on December 31, 1966. These rates now require an Act of Parliament to be changed. Before the National Transportation Act was passed the export freight rates to the Pacific were set by an order of the Board of Transport Commissioners and the level of these rates was established having regard to the Crows Nest rates on grain moving eastward to the Lakehead.

**Chronology of Government Legislation, Court Rulings, Board Orders, Regulations, etc., Having an Impact on Production and Marketing of Grain in Western Canada.**

- 1872 Dominion Land Act S.C. 1872, C.6.
- 1876 First export of wheat from the Prairies.
- 1878 St. Paul Railway entered Winnipeg.
- 1881 First elevator built in Western Canada.
- 1881 Canadian Pacific Railway completed between Fort William and Winnipeg.
- 1882 First cargo of wheat left the Lakehead (Fort William).
- 1883 First elevator built at the Lakehead (Port Arthur).
- 1885 First all-Canadian rail link (Canadian Pacific) between the Prairies and Pacific Coast opened.
- 1887 Formation of the Winnipeg Grain Exchange.
- 1897 An Act to authorize a subsidy for a Railroad through the Crows Nest Pass S.C. 1897, C.5. (Crows Nest Freight rates on western grain moving to Fort William).
- 1899 Royal Commission on the Shipment and Transportation of Grain.
- 1900 Manitoba Grain Act S.C. 1900, C.39.
- 1904 Building of the western portion of the Grand Trunk Pacific to Prince Rupert, (Completed 1912).
- 1904 Grain Inspection Act S.C. 1904, C.15.
- 1905 Introduction of Marquis Wheat.
- 1906 Royal Commission on the Grain Trade in Canada.
- 1908 Winnipeg Grain Exchange reformed; became an unincorporated voluntary association.
- 1911 Act creating the Saskatchewan Co-operative Elevator Company.
- 1912 Canada Grain Act S.C. 1912, C.27. et seq. established the Board of Grain Commissioners.

1912 First Canadian Government Elevator opened, at Port Arthur.

1914 First Canadian Government Interior Terminal Elevators opened, at Moose Jaw and Saskatoon.

1915 Panama Canal opened.

1916 First Canadian Government Elevator on the Pacific Coast opened.

1916 United Grain Growers from amalgamation of three grain growers associations and the Alberta Farmers' Co-op Elevator Company.

1917 Board of Grain Supervisors P.C. 1917-1552 (to June 6, 1919).

1919 Soldiers Settlement Act S.C. 1919, C.19 et seq.

1919 Canadian Wheat Board Act S.C. 1919, C.9 (to 1922).

1923 Royal Grain Inquiry Commission P.C. 1923-774.

1923 Prairie Wheat Pools formed.

1925 Major revision of the Canada Grain Act.

1928 Select Standing Committee of the House of Commons dealt with the grading of wheat by protein content.

1929 Hudson Bay Railway completed to Port Churchill.

1929 Welland Ship Canal expanded and modernized.

1929 Prairie Provincial Governments guaranteed bank loans to the three Wheat Pools.

1930 Dominion Government provided financial assistance to the banks and the provincial governments covering grain loans.

1930 Mr. John I. McFarland appointed by the Federal Government as general manager of the Canadian Co-op. Wheat Producers' Ltd.

1930 Revision of the Canada Grain Act S.C. 1930, C.5 et seq.

1931 Prairie Wheat Pools separated from their Central Selling Agency the Canadian Co-operative Wheat Producers Ltd.

1931 An Act Respecting Wheat S.C. 1931, C.60 (5¢ freight subsidy).

1931 Commission to Inquire into Trading in Grain Futures P.C. 1931-853.

1931 Grain Marketing Act S.S. 1931, C.87 (100% pool).

1931 First shipment of wheat through Port Churchill.

1932 Ottawa Economic Conference: Canada obtained preference on wheat in British market.

1933 United States legislation, the Agricultural Adjustment Act; parity prices established.

1933 Commodity Credit Corporation established in U.S.A.

1933 London Wheat Conference and subsequent International Wheat Agreement.

1934 Farmers' Creditors Arrangement Act S.C. 1934, C.53.

1934 Natural Products Marketing Act S.C. 1934, C.57.

1934 Natural Products Marketing Act ruled ultra vires of the Dominion Government by the Supreme Court of Canada.

1934 Emergency Wheat Control Act S.M. 1934, C.48.

1935 Prairie Farm Rehabilitation Act S.C. 1935, C.23 et seq.

1935 Canadian Wheat Board Act S.C. 1935, C.53 et seq.

1936 Royal Grain Inquiry Commission P.C. 1936-1577.

1938 Canada-United States trade agreement (abrogated British preference on Canadian Wheat).

1939 Agricultural Products Co-operative Marketing Act S.C. 1939, C.28 et seq.

1939 Grain Futures Act S.C. 1939, C.31.

1939 Prairie Farm Assistance Act S.C. 1939, C.50 et seq.

1939 Canadian Wheat Board opened Eastern office in Toronto.

1940 First implementation of delivery quota systems of control over western grain marketing.

1941 Wheat Acreage Reduction Regulations P.C. 1941-3047.

1941 Feed Freight Assistance Regulations P.C. 1941-7523 et seq.

1942 Wheat Acreage Reduction Act S.C. 1942, C.10.

1942 Veterans Land Act S.C. 1942-43, C.33 et seq.

1943 Wheat Futures Trading discontinued on the Winnipeg Grain Exchange; Canadian Wheat Board made exclusive marketing agency for wheat.

1944 Farm Improvement Loans Act S.C. 1944, C.41 et seq.

1944 Agricultural Prices Support Act.

1944 Canadian Wheat Board Act amended to exempt the Board from authority in marketing Eastern Wheat P.C. 1944-5640.

1945 The Food and Agriculture Organization of the United Nations Act S.C. 1945, C.4 et seq.

1946 United Kingdom Wheat Agreement.

1948 Canadian Wheat Board empowered to control interprovincial movement of wheat products.

1948 International Wheat Agreement (No.1) P.C. 1948-1016.

1949 Manitoba Coarse Grain Marketing Control Act R.S.M. 1954, C.41.

1949 Saskatchewan Grain Marketing Act, R.S.S. 1953, C.241.

1949 Alberta Coarse Grain Marketing Control Act S.A. 1949, C.25.

1949 Marketing of oats and barley brought under the Canadian Wheat Board.

1951 Appropriations Act No.2 1951, C.2, provided for a grant of \$65 million to the 1945-49 Pool as settlement to western grain producers for participation in the United Kingdom Wheat Agreement.

1951 St. Lawrence Seaway Authority Act S.C. 1951, C.24 et seq.

1951 Prairie Grain Producers Interim Financing Act S.C. 1951, C.20 et seq.

1952 Extension of Colombo Plan to wheat aid.

1953 International Wheat Agreement (No.2) P.C. 1953-556.

- 1953 Application of accelerated depreciation for Income Tax purposes to commercial grain storage facilities.
- 1954 Canada-Japan trade agreement extended M.F.N. rates to Japan and opened Japanese market to Canadian grain.
- 1954 Inauguration of United States Public Law 480.
- 1955 Churchill elevator capacity doubled.
- 1955 GATT resolution on surplus disposal.
- 1956 Canada-U.S.S.R. trade agreement extended M.F.N. rates to U.S.S.R., which government agreed to buy 1.2 million tons of Canadian Wheat.
- 1956 First shipment of flour to United Nations Relief and Works Agency.
- 1956 Prairie Grain Producers Interim Financing Act S.C. 1956, C.1.
- 1956 Temporary Wheat Reserves Act S.C. 1956, C.2.
- 1956 International Wheat Agreement (No.3) P.C. 1953-734.
- 1957 Prairie Grain Advance Payments Act S.C. 1957, C.2.
- 1957 Establishment of FAO Group on Grains.
- 1957 Agricultural Stabilization Act S.C. 1957, C.22. Succeeded the Agricultural Prices Support Act.
- 1957 Treaty of Rome established the European Common Market.
- 1958 First time that the Canadian Wheat Board failed to make a final payment (Oats Pool, 1956-57).
- 1958 Grain Farmers march on Ottawa.
- 1958 Western Grain Producers Acreage Payment Regulations P.C. 1958-1442.
- 1958 Bracken Enquiry into the Distribution of Railway Boxcars P.C. 1958-181.
- 1959 Supreme Court upheld the Board of Transport Commissioners' ruling that demurrage charges on box cars is permitted at terminal elevators after ten days.
- 1959 Cabinet suspended Board of Transport Commissioners' ruling on demurrage.

1959 International Wheat Agreement (No.4) P.C. 1959-480.

1959 Formal institution of Canada-United States Quarterly Meetings on wheat and related matters.

1959 Food for Peace Conference (Wheat Utilization Committee).

1959 Bracken formula for box car allocation instituted.

1959 St. Lawrence Seaway opened.

1959 Canadian Wheat Board pricing policy changed to take advantage of new freight conditions consequent on St. Lawrence Seaway opening.

1959 Crop Insurance Act S.C. 1959, C.42 et seq. Crop Insurance Test Areas Act S.M. 1959, C.14; the Saskatchewan Crop Insurance Act S.S. 1960, C.57.

1959 Royal Commission on Transportation P.C. 1959-577.

1960 Prairie Grain Provisional Payments Act S.C. 1960, C.2.

1960 Prairie Grain Loans Act S.C. 1960, C.1.

1960 Freedom from Hunger campaign.

1960 Western Grain Producers Acreage Payment Regulations, 1960.

1960 Addition of Title IV to United States Public Law 480.

1960 Canadian Wheat Board instituted off quota feed mill policy.

1961 Railway Act amended to include rapeseed as a grain.

1961 Report of the Royal Commission on Transportation (MacPherson) recommended branch line abandonment and subsidy to cover losses on grain transport.

1961 Agricultural Rehabilitation and Development Act S.C. 1960.

1961 Sale of wheat to China under long term credits.

1962 EEC Ministerial decision implemented the Common Agricultural Policy.

1962 Western Grain Producers Acreage Payment Regulations, 1962.

1962 Extension of U.S.A. title IV P.L. 480 provisions to the private grain trade.

1962 Canadian dollar value fixed at exchange rate of 92<sup>1</sup>/<sub>2</sub>¢ vis-a-vis the U.S. dollar.

1962 Introduction of the European Common Market Grain Regulations, including the import levy system.

1962 International Wheat Agreement (No.5) P.C. 1962-631.

1963 Inauguration of the World Food Program.

1963 World Food Congress (Freedom from Hunger) Washington, June.

1963 Winter Storage Subsidy on feed grain in Eastern Elevators paid by Federal paid by Federal Government.

1963 Sale of 250 million bushels of wheat to U.S.S.R.

1964 Kennedy Round of tariff reductions began, under the General Agreement on Tariffs and Trade.

1964 Minimum Import Price System applied in the United Kingdom.

1964 Export Flour Adjustment Policy discontinued by the Canadian Wheat Board.

1964 Canadian Wheat Board H.Q. Building expanded.

1965 International Wheat Agreement extended by protocol for one year, without amendment.

1965 Asian wheat production exceeded two billion bushels for the first time.

1965 Grain Transportation Committee formed.

1966 International Wheat Agreement again extended by protocol for one year to July 31, 1967.

1966 Winter Storage Subsidy on feed grain in eastern elevators cancelled.

1966 National Transportation Act S.C. 1966-67, C.69 (An Act to define and implement a national transportation policy for Canada).

1966 Livestock Feed Assistance Act S.C. 1966, C.52. Canadian Livestock Feed Board established.

1967 Price and quantity obligations under the International Wheat Agreement ceased; administrative provisions extended until June 30, 1968.

1967 Federal Treasury guaranteed price equivalent of \$1.95<sup>1/2</sup> basis No.1 Northern, Lakehead, on Canadian Wheat Board sales of wheat, until beginning of IGA.

1967 International Grains Arrangement negotiated under the Kennedy Round and special Rome Conference.

1968 Canada Grains Council formed.

1968 International Grains Arrangement came into effect July 1. World Prices dropped below the arranged minimums; Canadian prices held.

1968 Prairie Grain Advance Payments Act amended to double the payment rate and to provide advances to cover cost of drying grain.

1969 Canadian prices dropped below the IGA arranged minimums.

1969 Canadian Wheat Board selling prices to Canadian buyers for domestic use held at the \$1.95<sup>1/2</sup> equivalent level. Two price system.

1969 Block Loading System instituted by the Canadian Wheat Board as a method of calling forward desired kinds and grades of grain.

1970 Canadian dollar unpegged.

1970 Boden Committee reviewed and reported on the delivery quota system for Western Canadian grain.

1970 Canadian Wheat Board inaugurated quota system aimed at making deliveries more selective and market-oriented, and at keeping adequate working space in country elevators.

1970 Wheat and Barley pools (1968-69) failed for the first time to make a final payment, and for the second time there was no final payment on an Oats pool (1968-69).

1970 Federal Government Wheat Acreage Reduction Program (Operation Lift) in effect; wheat planting down 50%.

1970 Delivery quota regulations changed to eliminate the unit quota and to move from specified acreage quota to seeded acreage (except for wheat) plus assigned acreage; each permit holder allowed two delivery points.

1971 Quota regulations again changed to a completely assignable acreage base, and terminable quotas introduced.

1971 Canada Grain Act S.C. 1970-71, C.7; replaced the Board of Grain Commissioners for Canada with the Canadian Grain Commission.

1971 Prairie Grain Advance Payments Act amended S.C. 1971, C.P-18.

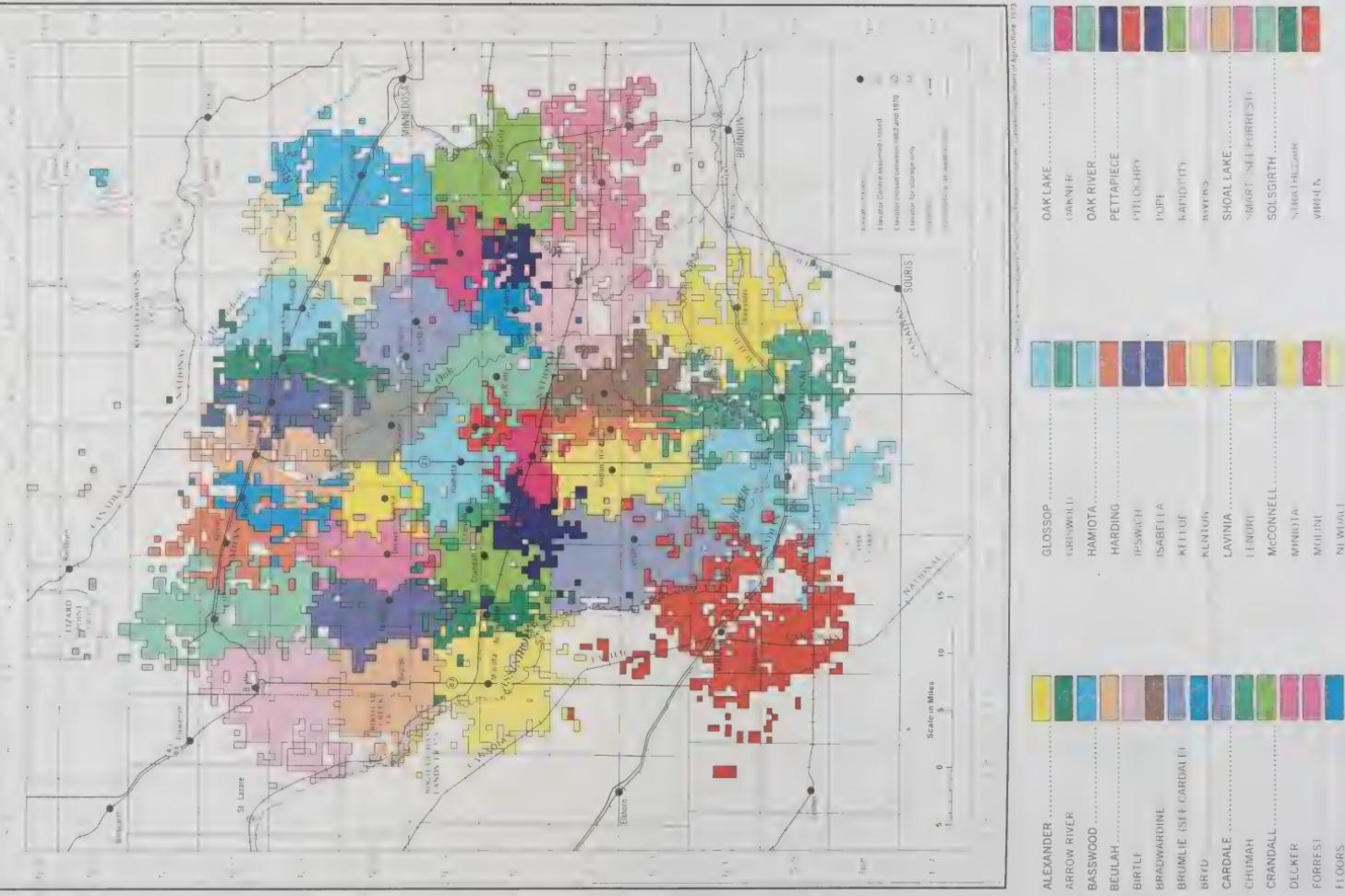


Figure 4 2 Grain farms in relation to their respective delivery points, Virden Region, Manitoba, 1969-70



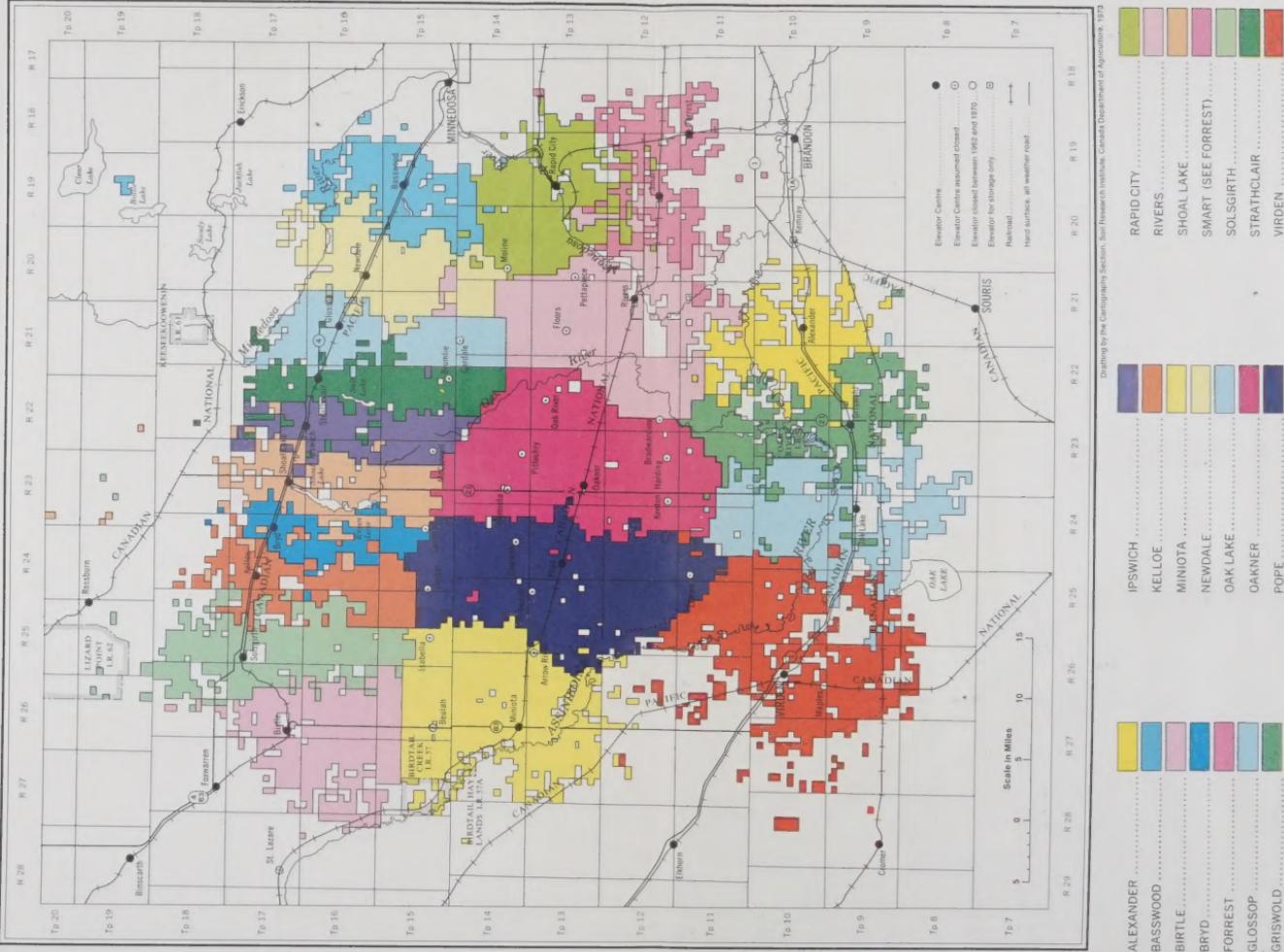


Figure 4.3 Grain farms and their delivery points had the elevators specified in Table 4.2 been closed in 1965-70.





